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SOME SPECULATIONS REGARDING THE NATURE AND CHARACTER OF HYPNOTIC BEHAVIOR

André M. Weitzenhoffer, Ph.D.¹

For some time now I have been attempting to arrive at a better understanding of the factors which determine the form *hypnotic behavior* takes. This problem is related to a more general problem, which is that of understanding the nature of, on the one hand, responses to suggestions given in any situation and, on the other hand, of behavior occurring in the presence of trance states in general.² By virtue of the fact that it appears to cut across both areas of inquiry, hypnotism seems to offer an ideal ground for getting insight into these wider areas, in addition to being itself of intrinsic interest. I must also emphasize that this article is a *brief outline* of a model or theory which is by no means completed as yet, but which seems to now be sufficiently developed to warrant a preliminary presentation of some of its dominant and basic features. I will frankly admit from the start that this is for the most part largely a speculative article and very little attempt will be made here to support the various statements which will be made by such experimental data as may exist.

1. MODES OF HYPNOTIC BEHAVIOR

Strictly speaking, one ought to dis-

tinguish between hypnotic behavior arising out of suggestions and hypnotic behavior which is independent of suggestions. Unfortunately, one rarely if ever observes suggestion-free behavior in connection with hypnosis, and more often than not such behavior as one may observe and feel is relatively free of contamination by suggestive influences is but a segment of a total behavioral sequence largely dominated by suggestive influences. In any case, it is rare that one can feel confident that one is dealing with a suggestion-free situation. The best approach to hypnotic behavior, then, is perhaps to consider the total behavior to be accounted for as being made up of a combination, compounding, or mixture of suggested and non-suggested behavioral segments or elements. One thing is certain: were it not for the central part suggestions have been given to play in the elicitation of hypnotic behavior, it is doubtful that the phenomenon would have given rise to the kind of interest which exists in it, and it is therefore about suggested behavior that we will talk for the most part, bringing suggestion-free behavior into the picture mainly as a special case of a more complex behavioral process.

It is a well attested fact that response to a suggestion, especially in hypnosis, may involve any one of a number of possible modes of behavior. Whatever mode is used by the individual, it aims to *satisfy* the suggestion in some sense or at some level. Stated a little differently, the resulting behavior, if it is an adequate response, *actualizes* or gives reality to the ideas communicated or elicited by the suggestion. It is of theoretical importance to recognize that there are any number of

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²As I have discussed elsewhere (3) at present I consider hypnosis and trance as class designations, my position being that there are many kinds of trance states, of which *only some*, and perhaps only one, are hypnosis. I have also made a fundamental distinction between *state* and the behavior elicited in the presence of a state (3). In the present article I am primarily concerned with the behavior seen in relation to hypnosis and not the state of hypnosis per se, or trance behavior in general.

ways in which this can be done and that they are all adequate responses.

For instance, when we suggest a hand levitation to a hypnotized individual, any one of the following can take place: The hand may rise in a rather peculiar and characteristic fashion, which I shall not attempt to describe here, but those readers who have seen this will know what I mean. Simultaneously, the subject may experience a feeling of lightness in his hand, that it is floating up, that some external force is acting upon it, or he may feel as if it belonged to someone else, or, again, he may lose all awareness of it. Some subjects have these various subjective experiences in spite of the fact they have not been suggested; others do not have any such experiences *in spite of the fact* they have been suggested. Also, even though his hand does not overtly move, the subject may hallucinate that it does. Similarly, when we suggest to a hypnotized person that he will go back to a time in his childhood, the subject may vividly relive, that is, re-experience, this period and will overtly behave in ways which are consistent with the regression and even duplicate the behavior which did once take place. But the regressed subject may also only re-experience, without overt behavior, or may show overt behavior without re-experiencing at all, or only poorly. He may only more or less clearly remember past events and re-enact the behavior consistent with these as he perceives such behavior would have been from his present adult viewpoint. Some subjects feel that they are in two places, whereas others are either fully in their past or remain in the present insofar as their reality-orientation is concerned. One of the most interesting paradoxical situations which exist here is that of individuals who show remarkable and consistent changes in handwriting in the absence of satis-

factory subjective regression experiences. That is, they regress at the motor, but not at the cognitive, level. Suggested posthypnotic amnesia also shows interesting variations in adequate responses. Some subjects appear to develop a true amnesia in the sense that their mind is simply "blank" in regard to the forgotten material. Others, however, have more the experience of the material to be recalled being "on the tip of the tongue." Some subjects seem to have an abulia with regard to recalling. Then there are subjects who become unable to make the proper sounds, sometimes because the vocal cords can not be activated properly, sometimes because the lips or the tongue or the mouth as a whole cannot move in the proper way, or the flow of air which is necessary cannot be secured, but the memories appear to be available.³ Conversely, some individuals who are told that they will not be able to say their name develop a selective amnesia for the name, although more often the inability takes the form of a motor inhibition which affects the mouth, vocal cords, or breathing.

Here then are a few examples of the many ways a suggestion may be satisfied. The subject's perception of what is going on is no less interesting and significant. Here, too, we see many interesting variations. Some individuals experience vivid hallucinations which become substituted for reality and such that their overt behavior is fully consistent with the hallucinatory experiences. Objective reality ceases to exist for these individuals, and both their experience and behavior appear completely natural to them. Others who have no such hal-

³I say "appear" here because one must often rely upon the subject's report that this is the case, and we may be faced here with a sort of denial through conversion of the true state of affairs, or some sort of rationalization.

lucinations may nevertheless feel that their behavior is quite natural, although in some instances what seems to be acceptance is apparently due to a loss or flattening of affect. Subjects sometimes have a feeling of detachment, of "watching" themselves behave or experience as if they were watching a stranger having their experiences and doing what they are doing. Sometimes, but not very often, a subject will feel as if he were possessed. One often has the impression of a mild and limited dissociation or depersonalization having occurred. Some hypnotized persons may react with anxiety, become distressed, and appear to perceive their behavior and experiences as something alien to their nature or the world they know. Yet it is noteworthy that in spite of this they may continue to respond to the suggestion. Subjects sometimes report feeling compelled to produce certain overt responses in the absence of any supporting cognitive changes. They appear to be compelled to give some reality to the suggestions, even if they have deliberately to pretend or role-play. Concurrently or subsequently they may develop strong guilt-feelings about this behavior. Subjects often attempt to rationalize and deny their behavior and experiences. They will assert that they could have prevented or could prevent themselves from producing the suggested response. Not infrequently they can be challenged and shown to have been wrong. Other subjects deny the effects of the suggestion by claiming they voluntarily produced the response. (There is often evidence available that the said response in such cases was by no means as voluntary as perceived.) Other subjects develop a feeling of having pretended, in retrospect, after the hypnotic session is over. This may not take place for several days and occurs primarily only if there is no amnesia or only partial amnesia for

the hypnotic experiences. It might be remarked here that the denial by the subject of a loss of control, the reference to the "power" of suggestions, the insistence on responses having been intentional, is a rather common and characteristic reaction among certain individuals of relatively low susceptibility, and frequently leads one to feel that the subject "doth protest too much," and that there probably was a compelling aspect to the suggestions of which the subject is only partly, if at all, aware. The compulsion aspect of hypnotic behavior is a real phenomenon which ought to be carefully examined.

It may seem from the above that the wording or presentation of the suggestion is not too critical and that the subject will automatically produce whatever response is compatible with the suggestion and his own potentiality for producing the suggested response. This is not entirely true. For instance, one may attempt to produce a hand levitation by asking the subject to imagine certain kinesthetic correlates of the movement with no success, whereas having him visualize the hand moving as an object will give the desired result. With another subject the situation may be completely reversed.

It is impossible to cover all, in these few pages, of the variations in hypnotic behavior one observes, and the above aims only to give the reader a flavor of the existing situation. There are, however, certain other features which ought to be mentioned before we conclude this section, because they are of some theoretical importance. First, it is now clearly established (4) that some inductions of hypnosis lead to an appreciable enhancement of suggestibility in some individuals. This effect is only partly a function of the individual's initial (non-hypnotic) suggestibility. Whether the absence of an enhancement in other individuals

following a procedure aimed at inducing hypnosis is to be interpreted as hypnosis not having been induced or must be interpreted differently is a matter we need not discuss further at this point, as it has already been taken up elsewhere (4). It is also observed that some individuals who have not submitted to a trance-induction can show a high degree of suggestibility comparable to that shown by some individuals only after they have been hypnotized. Whether these individuals are individuals who spontaneously enter a hypnotic state without the aid of a formal induction is also a matter discussed earlier (4). It will, however, be pointed out that there is some evidence that not only can some of these individuals also show an enhancement following a formal induction, but they are able to discriminate subjectively between being and not being hypnotized, and in some instances their overt behavior in both situations does seem to show certain differences. Individuals are occasionally seen who show themselves as relatively refractory and who rather abruptly shift to fairly high susceptibility, sometimes within one session. In these instances one often has a feeling that the subject has figuratively "shifted gear" or made some sort of fundamental transition. The immediate antecedents for this effect are not always clear. In my own experience it has usually seemed to follow getting the subject to produce the type of response we associated with ideomotor action. The form of the response and the strength of it do not always appear to have been important. Among individuals showing this sort of transition have been persons who subsequently described how at first, as they responded to the suggestion, they either could not decide whether or not it was an intentional response; or they felt pretty certain it was, but then at some point in the development of the response they exper-

ience something which made them realize that at least some aspect of the response was not intentional. At this point, as subsequent retrospective analysis of the situation seemed to indicate, these individuals passed rather abruptly into what can best be described as a much deeper hypnosis, or, if they were not yet hypnotized, became rather profoundly hypnotized.

Not only does hypnotic behavior manifest itself in various modes, but within each modality it can manifest itself in different degrees. This observation is of course the basis of the notion of depth of hypnosis. That there is a reality to this is now well established, at least with respect to suggestibility (5, 6, 7). There is evidence coming from various sources that hypnotic behavior can and should be scaled on more than one dimension (6, 8.) Just what these dimensions are, however, is not something fully agreed upon as yet. One approach to this matter of dimensions which has not previously been used but which has theoretical implications is in terms of the subject's type of overall responses to suggestions. Such scales of hypnotic depth or susceptibility as that of Friedlander and Sarbin (2) and the Stanford Scale (5) score the subject in terms of his overt responses to suggestions, placing considerable weight on motor act. I have proposed elsewhere (6, 7) that this be called the subject's suggestive (hypnotic) *participation*, since it seems to measure the extent to which he overtly participated in the suggested situation. However, above and beyond this, one finds that subjects experience suggested effects as having *varying degrees of reality*. For some a suggested effect has an absolute reality, whereas for others it is not at all real, and, of course, it can have any degree of reality between these two extremes. This is a dimension which has not been given any attention thus far, and

which I have called suggestive (hypnotic) *involvement* (6). In contrast to participation, which is studied on the basis of overt behavior, involvement is largely determined on the basis of subjective reports. I feel there is rather good *prima facie* evidence in support of these two dimensions. Hypnotic behavior seems, however, to involve still something else, which is at present much less well defined. This has to do with the fact that in the traditional induction of hypnosis there is an intent, a commitment on the part of the subject to let himself be told what to do and experience and thereupon to do and experience accordingly. Perhaps it can best be described as a commitment to give up autonomy and allow himself to become fully involved. I believe that here is where the transference aspect of hypnosis plays a rather important role. This may not be a single dimension but several which are at present confounded in my thinking. As I have said, this aspect is at present still not too well defined in my mind, but I do feel there is at least one other dimension to which I have provisionally given the name of suggestive (hypnotic) *commitment* (6).

If it is true that the quality and intensity of hypnotic behavior are a function of two or more independent factors, then the notion of depth may have to be revised somewhat. In the past it has been used primarily to designate what I have here called participation. One could continue to use it in this sense, although it now becomes clear that it will no longer fully describe the character of hypnotic behavior, and as a consequence it loses much of its value as a concept. Much of the original value of depth could be preserved if the term was used to label an invariant quantity derived from all of the dimensions of hypnotic behavior. Another possibility is to use "depth" not with reference to hypnotic

behavior but to the presumed state underlying such behavior, as was historically the original intent. This, however, further assumed that the state has only one dimension. Since depth is not the topic of this article and does constitute the main theme of a separate discussion (6,7) and any discussion of this problem would take us too far afield, we will leave the matter here.

2. THE DOUBLE-RESPONSE MODEL OF HYPNOTIC BEHAVIOR

If I have gone to some length in enumerating the many forms in which hypnotic behavior may manifest itself, it is because to my way of thinking this is an outstanding feature which has never been treated satisfactorily. Most often investigators have been prone to accept one or more of these modes or responses as defining hypnotic behavior and hypnosis, either rejecting other modes as not being hypnotic or forcing them more or less satisfactorily into their conception of hypnotic behavior. It seems to me that perhaps one ought to start by accepting all of the observed types of behavior as being each in its own right a sample of hypnotic behavior which must be fully taken into account by whatever model one eventually develops for hypnotic behavior. In order to account for certain aspects of suggestive participation, I proposed in some of my previous writings (8) that hypnosis was multidimensional and that various aspects of hypnotic behavior were to be seen as arising out of the contributions and interactions of two or more processes, to which were added the effects of the various personality characteristics of the subject. My position has not changed appreciably in this respect. I have found since then only further support for insisting that hypnotic behavior is multiply determined. I see no other way of accounting for such a wide collection of

behavioral manifestations as we see in the case of hypnosis. It is also suggested by the great difficulty one encounters in any attempt to find stable correlations of appreciable magnitude between hypnotic behavior and personality characteristics. It is not my intention to review in these pages my earlier formulation, but instead I would like to develop another model, using a somewhat different basis for it. This does not necessarily mean that the older formulation is being rejected, because the old and the new approach are looking at the same problem from different angles. If the two formulations are basically correct, then they will turn out to lead to isomorphic models. If there is no isomorphism, then it will eventually be necessary to decide which, if any, of the two models is to be retained. Thus far I have not found any basic incompatibility between the two models, and the time has not yet come for making a choice.

Just as, throughout the many years I have worked with hypnotic phenomena, I have been struck by the great diversity of its manifestations, I have been equally, if not more, struck by the degree to which automatism pervades hypnotic behavior. This is a fact which has been attested to time and time again in past literature. In a moment I will clarify what I mean by this term, but for the time being let me go on using it on the assumption we all understand it to mean pretty much the same thing. Automatism often dominates the picture in no uncertain way. This is especially true in the initial production of hypnotic responses. At other times, especially with subjects who have had repeated and wide experience with the utilization of hypnosis, this automatism, while being still present, tends to be masked or to become submerged so as to become invisible except to the experienced eye. Theoretically, as will

be presently seen, the automatism, although a possible fundamental characteristic of initial hypnotic behavior may become supplanted by intentional-like behavior as the hypnotic state is utilized and may even be intentionally used by the subject. Another rather striking feature of hypnotic behavior is indeed the occurrence of intentional or intentional-like segments of behavior in what often seems a chance order in the course of the development of a suggested act or experience. In fact, it seems at times somewhat paradoxical that in hypnotic behavior we often find ourselves faced with behavior that appears to be both an automatism and intentional. The situation need not, however, be paradoxical, for as I have been increasingly led to see it, there is a natural *disposition* in all adult human beings for the *initial* response to a *meaningful* stimulus-situation to be a double response consisting of the simultaneous and independent production of an *automatism* and an *intentional act*. The final form the response to the stimulus-situation takes will depend upon a variety of factors. Some are environmental limitations or have to do with the medium for expression available to the subject, with which we shall not be presently concerned, as our interest in this article will be focused on the internal events within the hypnotized individual. In the most general case, this final response is jointly determined, i.e., is the resultant of a more or less complex interaction between the components of the double response. In other instances, one and only one of the components will be elicited, will be able to manifest itself, or it will dominate the situation. The general case is of course the richest in possible outcomes. Again, speaking in rather general terms, one outcome is the arousal of a double response in which the two components are independently elicited and remain independent. They may

then be mutually compatible (i.e., can co-exist), of limited compatibility, or incompatible. They may be synergic or antagonistic. On the other hand, there may be a complicated interdependence and interaction between the two components in which modulation, shaping of one by the other, and intermixing or compounding of the two in various temporal sequences will take place. The effects or characteristics of one will at times dominate, while at other times it will be the reverse. There may be such a complete merging or incorporation of one response into the other that a unitary response defying any breakdown will emerge. I have used the term resultant earlier in talking about the final behavior which is evoked. This was partly because in one way I perceive the two activated dispositions as having the quality of, or giving rise to, forces pushing the individual to move, so to speak, in certain directions, and in the end, unless one of the forces drops out of existence, the outcome can also be seen as an establishment of a balanced state of affairs.

Now, all of this which I have just said is really a statement about behavior in general and is certainly not specific to hypnotic or trance behavior alone. What is specific to these are certain specific changes which presumably occur in the pattern of interactions between automatisms and intentional acts when hypnosis has occurred. Under certain conditions a direct enhancement of automatism also appears to take place, but while this is of practical value it is only of secondary theoretical interest for our present discussion. In any case, there is essentially a shift in balance which favors automatism over intentional behavior in certain ways which will shortly be discussed.

Before going any further, however, let us stop a moment to define a few terms basic to our discussion. By a

pure automatism, or automatism, for short, is meant the performance of more or less complicated actions of a non-reflex type without conscious initiation or guidance on the part of the performer. It may or may not be goal-directed, and the individual may or may not be aware of its occurrence. By *intentional act* is meant a goal-directed act consciously initiated and guided by the performer. There are a number of behavioral modes which do not fully satisfy this definition. There are, for example, acts which may best be called *intentional automatisms* because they are consciously initiated and are goal-directed, and they are such that they can come under conscious guidance at any instant, but they are otherwise consummated without conscious guidance or, indeed, any further intervention by the ego. There are acts which I call *quasi-automatisms*, because they are also consciously initiated and goal-directed, but once initiated they become autonomous, that is, in contrast to the previous type, they are thereafter not amenable to ego-control. Finally, we can speak of *quasi-intentional acts* which are goal-directed and consciously initiated and which are throughout their consummation part of the time, but not all the time, and at various stages of development, under conscious guidance. Such acts are by far the more frequent and most so-called intentional acts seen in everyday life are really quasi-intentional.

How many different kinds of automatisms exist is not clear. The oldest and best known is *ideo-motor action*. This can best be described as the direct, immediate elicitation of motor responses by an idea. Bernheim also talked of *ideo-sensory action* in a similar sense with respect to the elicitation of percepts by ideas. He coined the term "psychodynamism" for these two actions. Since "psychodynamic" has today an altogether different con-

notation, I prefer to use the terms *ideo-dynamism* and *ideo-dynamic action* to refer to the above two actions, to which I feel one ought probably to add a third effect, an *ideo-affective action*, in which ideas give immediate rise to emotions or feelings. It should be clearly understood that in the case of *ideo-dynamic action*, the elicited response is not just any response, but is one which might be described as the most direct translation of the idea into the particular response modality to which it refers. The response is a motor, sensory, or affective equivalent or analogue of the idea, and not just a response by association. Or again, the response is that behavior or experience about which the idea is. It is also important to keep in mind that it is a normal property of the individual. Whether or not all automatism is basically dependent upon *ideo-dynamism* is a question which cannot be answered in any definite way at this time. I am prone to believe that there are some forms of pathological automatism which have a quite different basis, and I am by no means certain that they would not have normal counterparts. There are also certain transformations of *ideo-motor action* and certain interactions of the latter with intentional behavior which are possible and which, if they take place, ought perhaps to be regarded as involving automatisms of a quite different order. Intentional and quasi-automatisms fall in this category. Actually for the present there is no need to answer this question in any definite manner. The existence of automatism is postulated, and it remains true that *ideo-dynamic action* is one basis of automatism and seems to play a pervasive role in hypnosis, but for most of the discussion which follows this last is not a fundamental issue. The main issue is only whether or not we provisionally accept the double response as previously described as a

working hypothesis, if not a fact. There is, I might add, a close parallel to Freud's Systems Cs and Systems Ucs and what we might here call the automatism system and the intentional system.

Returning to the question of the nature and origins of hypnotic behavior, let it then be first remarked that in the normal, wakeful individual automatisms are extremely *weak* responses as compared to intentional acts. Furthermore, intentional behavior appears to be *prepotent* over and to *supersede* any automatism which might tend to manifest itself. Thus, even though there is an initial elicitation of automatic responses, usually the latter never comes to fruition, may be incorporated in the intentional response, or becomes considerably altered and usually masked by the intentional response, which in particular may consist of nothing more than a blocking response. There may also exist an automatic blocking of automatisms as a matter of course. In addition to these initial reactions there is a third response which normally tends to take place if, through varying circumstances, the automatism does manage to manifest itself. This is an *intentional response to the automatism*, which also acts as a stimulus for this response. This is often a counter, inhibiting response. Finally, intentional action appears to have a rather interesting and important property, which is that its prepotency can be self-reduced and self-eliminated through an intentional act aimed at bringing about such reduction or elimination. Now we know that under certain circumstances ideas presented to an individual give rise in an immediate, direct manner to behavior which is a typical automatism without evoking an intentional response. Such ideas among others have been given the name of *suggestion*. One of the most striking features about this kind of suggestion is that just

about any presentation of ideas can at some time or other function as a suggestion, although at other times they have a quite different function. Thus what are normally commands, instructions, statements of facts, and so forth, can also be suggestions. The way one usually knows whether or not a communicated idea is functioning in the capacity of suggestion or in some other capacity is through the observation of the nature of the elicited response, and in no other way. True, the intent may have been to give a suggestion, but intent does not make a fact, and it is important here to distinguish between what is an *intended* or *potential* suggestion and what is an *actual* suggestion or suggestion proper. An intended suggestion is not really a suggestion in the above sense until it has brought about the characteristic or defining response, which will now be described in the following definition: One kind of suggestion is an idea, a group of ideas, or an event which gives rise to an idea or group of ideas, such that by virtue of their very nature or by virtue of existing circumstances they give rise to a response which is *dominated* by automatism. Thus when a suggestion is active one has essentially a reversal of the situation which otherwise exists for the normal wakeful individual where responses are dominated by intentional acts. Stated in another way, we may say that when a suggestion is acting upon an individual automatism is the principal determinant of the overall response and intentional behavior is only a secondary determinant, if at all present; whereas, in the absence of suggestion, intentional acts are the primary determinant, and automatisms, if present, are secondary determinants.

When I say that automatism dominates, I want to make it clear that this does not mean that it necessarily does so in a clearly visible manner, but rather that it determines the nature of

the pattern of action. Actually there can be such a heavy overlay of intentional-like features present that the behavior as observed will appear as anything but an automatism. Role-playing as a way of responding to hypnotic suggestions is, in at least some instances, a good and extreme example of what I mean. I have been able to gather considerable evidence in the past twenty years that there are at least some instances of hypnotic role-playing in which the subject really feels compelled to give some sort of reality to the suggestions in a way which indicates that much if not all of his behavior is fundamentally not intentional. Two things seem to happen in these instances: First, the subject feels impelled to act in certain ways by the elicited automatism and because this is threatening to him, or for other reasons, he immediately proceeds intentionally to produce the behavior which he would otherwise produce as an automatism. He either "beats" the automatism "to the draw" or goes along with it at the intentional level in a synergic manner, thus giving the whole behavior an artificial quality of intentionalism. I see this in some cases as a defense mechanism perhaps best described as the "if you can't fight 'em, join 'em" mechanism. Individuals who behave in this manner are probably often overly sensitive to any tendency toward automatism and probably react in the above manner to what may be no more than subliminally perceived. In any case there is no question that they usually have no awareness of what is actually going on. The second feature which enters into role-playing is the fact that many suggestions do allow space for intentional elaborations and are in any case subject to various interpretations. Thus there are many ways of raising one's hand, and while the rising of the hand *qua* rising may be fully determined as an automatism, the subject can still

introduce many intentional elements into this rising.

As will have been noticed, I have been rather careful to indicate in the above discussion that I was talking about one type of suggestion. I need not review here the various kinds of suggestions which have been described in the literature. The reader can find a detailed treatment of these in an earlier work of mine (8). Whether or not the above definition can be applied to all types of suggestions I am not yet ready to decide. For one thing, there has been some question in my mind for some years now whether some of the kinds of suggestion which have been discussed in the past really ought to be called suggestions. In any case, the type of suggestion I am concerned with here is identifiable with what has been usually described as a prestige, personal, direct suggestion, and again belongs to the type of suggestions which function through primary suggestibility, for which reason I have previously suggested (8) they be called *primary suggestions*. This kind of suggestion is typically the kind we associate with hypnotic phenomena and their "waking" counterpart. It is generally believed, going back at least to Bernheim, that ideo-motor action is a major process in the production of responses to primary suggestions involving motor behavior, and ideosensory action is presumably involved in the production of a variety of sensory and perceptual phenomena. There are reasons to believe (6, 8) that ideodynamic action has a pervasive influence through the entire gamut of the suggestions which make up such scales as that of Friedlander and Sarbin, or the Stanford Hypnotic Susceptibility Scale. We have found at Stanford ample evidence that there is a primary factor which runs through the Susceptibility and other scales, and it may well be that it is to be identified with ideodynamic action. This same factor

appears to be largely, if not wholly, responsible for the ordered difficulty of the suggestions in the above mentioned scales. The question whether or not all automatism is basically ideodynamic in nature has already been raised. It should be clear that if this is not the case, the primary factor we are talking about could still be identified with automatism which, regardless of its origins, still stands out as a definite entity. Our analytical methods may be good enough to pull out the factor of automatism, but not good enough to pull out the components, especially if it should turn out that automatism has the properties of a Gestalt, as I have previously suggested in somewhat different terms (8).

Returning to the matter of hypnotic behavior, we may now speculate that the latter will arise when an individual is able to reduce or alter, if not totally eliminate, in another person the intentional component in the latter's responses to communications, while preserving intact and even enhancing the elicited automatism. Under these conditions we may expect to see the subject respond to the communication not only as a suggestion, but in an enhanced manner.

3. STRUCTURE AND SUBSTRUCTURE IN THE DEVELOPMENT OF HYPNOTIC BEHAVIOR

In the double-response model it is basically postulated that the two response systems under examination co-exist in a complex interaction. The two systems may be independent systems, or the automatism system may be a subsystem, hence an intrinsic part of the intentional system, but one capable of making an independent contribution. Now the question arises whether this is the only way in which the kind of automatism seen in hypnotic behavior could arise. A model such as the above one seems needed in order to account for the many in-

stances in which one can clearly see automatism and intentional behavior manifesting themselves simultaneously, in a more or less autonomous fashion. There are of course other possible models, such as a dissociation model, to account for this sort of thing, but such a model has certain inherent conceptual difficulties in it and also seems unnecessarily pathological.

On the other hand, there exists another way in which the kind of automatism we see in hypnotic behavior and in fact some of the deviations from pure automatism which are also seen, could and probably do arise. This is when through what I refer to as a process of *simplification* certain critical elements and interactions drop out of the intentional system and its structure becomes simplified or reduced to a simpler one, to essentially a subsystem which no longer has the capacity to bring about or to sustain intentional behavior but is sufficiently structured to produce automatisms. In cases where the simplification is less extensive or is more selective, there is a retention of certain elements and structural aspects of the intentional system such that the overall behavior which can be aroused shows deviations from automatism in the direction of intentionalism. Many features of hypnotic behavior can then be observed.

Thus, whereas in the double-response model automatism becomes increasingly dominant as a function of the extent to which the automatism system becomes released from the influence of the intentional system, in the present model automatism becomes increasingly dominant as a function of the extent to which simplification of the intentional system brings into existence a subsystem capable of functioning as an automatism system.

All this raises a most pertinent point, or rather several. Is the above to be considered an alternate theory or model? If not, does it mean that hypnotic

behavior may involve two or more different mechanisms and therefore we have to talk about more than one kind of hypnosis? If this is the case, can the same individual develop either kind? These are questions that I am not as yet able to answer in any definitive manner. There is certainly no incompatibility between the two models described thus far. In fact, there is a much closer relation between them than might at first seem, because in the most general situation the automatism system is able to become dominant in the double-response model at least partly, when not wholly, also through a simplification of the intentional system. The difference is that in the one case the automatism system exists as a system prior to the simplification and can even be active as such, whereas in the situation we have just introduced in this section, the automatism system is born out of the simplification. The end result may be, in both instances, the same. I would expect that under at least some conditions the simplified intentional structure which we are discussing here is equivalent to at least some of the structures which arise in the double-response model.

Another question which comes to mind is what happens to a co-existent automatism system in the double-response sense. There is no real problem here either. In cases where the automatism arises out of a subsystem of the intentional system, simplification probably has the same effect as the release from intentional control has in the double-response model. In cases where the automatism comes from a separate structure, we are back to dealing with the interaction between responses coming from two systems, with the difference now that both are leading to automatisms.

The question of an alternate theory or model is one that must wait for further research to be done before it can

be answered in any final way. At present I feel that the second model is incapable alone to account for all of the forms which responses to primary suggestions take. There are too many instances of responses to suggestions in which the intentional elements are of such a quality or intensity as to make it unlikely that the total response arose in any other way than through a double-response at least making some contribution to the overall response. It may, however, be that further analysis of the second model will show that it is fully capable of handling all instances of hypnotic behavior. For the time being I am prone to believe that hypnotic behavior probably arises according to one model in some individuals, according to the other model in others, and that some individuals may make use of either mechanism, perhaps as a function of the induction method used. Again, I am prone to believe that response to so-called waking primary suggestions arise mainly according to the double-response model. It is also of some interest to speculate here that the difference between deeply hypnotized subjects who have learned to behave very much like a non-hypnotized individual and those who have not reached that stage has perhaps to do with a shift from one mechanism to the other. For the time being, I can only repeat that I am presenting here two possible mechanisms to account for hypnotic behavior which are not necessarily alternate models.

As was pointed out earlier, ideodynamic action has been postulated to be one form of automatism. Would this statement still apply to the kind of automatism introduced in this section? I can see no reason why it should not, unless one insists on adding to the definition of ideodynamic action some sort of clause prohibiting this. Ideodynamic action describes a mode of response and not the actual mechanism for it.

4. EGO PROCESSES AND HYPNOTIC BEHAVIOR

The description of the origin and nature of hypnotic behavior thus far given might be described as a first-level description. Now we want to look a little deeper if we can. Fundamentally, the main difference between an automatism and an intentional act seems to lie in whether or not the individual's *total fundamental or basic ego structure* exerts *full control* over the act. Superficially speaking, one may say the presence or absence of normal ego-control is the most important distinguishing feature. If present, the act is intentional; if absent, the act is an automatism. A fuller analysis of the situation does show, however, the presence in automatisms of ego-like influences, so that the situation is somewhat more complex than the above would make it seem. It is more precise to state that it is not so much the total absence of ego-processes which makes for automatism in its broader manifestations, but it is the absence of, or a fundamental alteration in, certain ego-controls which makes for the difference. Or again, automatism in general is associated with either an alteration in normal ego structure or with an interference with its normal capacity to influence action.

In my conception of the determination of intentional behavior, ego-processes and controls hold a central position. In fact, the essence of intentional behavior might be said to be the participation of the ego in its manifestations. Intentional behavior is basically behavior which is initiated, controlled, and guided by the ego. Of the many functions the ego has, there are three of particular interest to us at this time, namely: control of motor behavior, control of impulses, and especially reality-testing. To these well recognized functions I will now relate four additional concepts having to do mainly with reality-testing: the *ego toler-*

ance for inconsistencies, the *tolerance threshold for inconsistency*, the *inconsistency threshold*, and the *reality-criterion*. What this all means will now be briefly explained. In the course of his daily life every individual has to deal with a multitude of relations, especially interactions, among events of the real world and between these events and his reality-criterion, that is, the cognitive structure which he perceives at the moment as reality, and against which he compares or tests and into which he tries to integrate all present experiences. In this process certain of these relations come to be perceived as *inconsistencies* (or *incongruities*). Because consistency is an essential requirement for survival, the ego can tolerate only so much deviation from it before reacting to it by either attempting to reduce the amount of inconsistency to a minimum by acting on the environment or by removing the individual from the situation. We are thus led to speak of the ego's tolerance for inconsistency and of a tolerance threshold for inconsistency. So far we have been talking only of a perceived inconsistency which may or may not have a reality basis or what we will call an environmental *discrepancy*. When a real basis exists for the perception of incongruity, there is still another threshold to consider, because the discrepancy must be of a certain magnitude before it is perceived as such. We shall call this the *inconsistency threshold*. The tolerance threshold obviously does not enter into the picture until at least the discrepancy reaches the inconsistency threshold. On the other hand, even when this threshold has been reached and surpassed one does not get inconsistency-reducing behavior unless the tolerance threshold has also been reached. Essentially we have here a situation quite analagous to one which is quite standard in psycho-

physics, where we speak of absolute and difference limens.

In the normal, wakeful individual, these ego functions and their related properties hold sway over automatisms. Whether or not an automatism will take place will be largely determined by whether or not the automatism and the stimulus-situation causing it are neutral, ego-syntonic or ego-dystonic (ego-alien). Additionally, when they are ego-syntonic there may still be the question of whether or not an intentional act is simultaneously and independently evoked which opposes or alters the elicited automatism. (It must be remembered that the individual need not be aware of the automatism and may respond independently in an intentional manner to the stimulus-situation.) By far the most important situation for our present discussion is the one in which the stimulus is a suggestion and there is ego-dystonicity. The end result will first of all depend very much upon whether or not the dystonicity is in respect to all or to only certain ego functions. Then, too, the ego's choice of defenses will be of considerable influence. The situation will often be further complicated by the fact that the suggestion per se will be ego-dystonic, but not the resulting automatism, or conversely, and to complicate matters even more, the dystonicity may not come into being until after the automatism has had a chance to manifest itself to varying degrees. Let us examine a few of these features more concretely, one at a time. Consider, for instance, a hand-levitation suggestion. Among other things it elicits through ideo-motor action a motor automatism. If the subject has a strong need for motor control and has well-developed motor control, the automatism may be aborted from the very beginning. On the other hand, impulsive motor behavior may be extremely threatening to him. Or if the subject perceives the elicited

automatism as an impulsive act, strong defenses against it will again arise. They may be of such a nature and strength as to counter the motor act. If not, the latter will take place, and the defenses may then deal with the situation by perhaps making the act appear as being intentional. Or from the start this last may be the preferred mode of defense first used in all instances of threat from impulses. Next let us take the case of a regression. Perhaps the individual does not possess the necessary capacity (ideo-sensory action) for having the adequate subjective experiences, but has good ideo-motor action, with the result that motor manifestations of all sorts take place. In the absence of a satisfactory sensorial framework, such motor activity may tend to be unrealistic and a poor imitation of the real thing. If, in addition, the impulse to carry out or the actual carrying out of the regression at the motor level, in spite of the absence of a proper perceptual setting, creates too great an inconsistency for the subject, the situation may become highly ego-dystonic, and defenses once more are aroused. The subject may subsequently intellectualize the motor behavior as role-playing or pretense, and he may even deliberately superimpose role-playing over the elicited automatism. In contrast, we may have a situation in which the individual is quite capable of having ideo-sensory action, but such an experience in itself being more threatening for him than motor automatism, the subject may then produce the latter alone. For some individuals there is a great need to stay in contact with reality. Such individuals may be able to have excellent sensory experiences but can never accept them as a substitute for reality. They are prone to insist that they do not "really see" a suggested object, that they "see it in their mind," etc., even though in other respects they are fully responding to the suggestion.

Sometimes an individual cannot prevent the automatism from taking place, or the latter, which was initially not threatening, develops features which become threatening. At such a time defenses can become aroused, just as they would in the course of everyday life, with varying results. Subjects have been known to faint under such conditions. Often they restructure their perception of the situation. For instance, one of my subjects in the course of experiencing time distortion, in which he initially perceived his personal time as very much slowed down with respect to the rest of the world, became unable to cope with this situation. He spontaneously altered his perception by presently perceiving his time as normal, but that of the rest of the world as greatly speeded up with respect to it.

As was pointed out earlier, suggestions, like any other communication, are very much subject to interpretation. It is important, however, to recognize that the particular interpretation a subject may place on a suggestion may be a function of the modes of response available to him for carrying out the suggestion and equally of his defenses against the suggestion or the elicited act. Consider suggested anosmia. I tell the subject, "You will be unable to smell any odors." I then test the subject with a strong solution of ammonia. The subject reacts to it, but as it turns out he did not "smell any odor", but felt an unpleasant burning sensation in his nose. Now it is clear that ammonia has an aromatic feature to its characteristic odor as well as certain tactile (pain) aspects. An individual for whom the total loss of the sense of smell would be threatening could carry out the suggestion by interpreting it in the more limited sense of referring specifically to the aromatic aspect. On the other hand, this may be his interpretation quite apart from any defense. I have frequently ob-

served that some individuals will rather readily develop an analgesia but have great difficulty in losing other tactile sensations. This could be because pain has such a large psychic component to it and is more susceptible to psychic control, but it may also be because loss of total sensation at a word or command can be quite threatening from the standpoint of reality-testing. Relinquishing pain may be quite acceptable, but not everything else that is tactile. Some individuals prefer to lose their affect to pain than the pain sensation itself, because pain as a sensation has great survival value. To tell an individual you will not "feel" pain can be easily interpreted as just that—"you will lose your feelings, i.e., your affect, toward pain." And again we may expect to find individuals who do interpret the suggestion as having to do with the affective aspect of pain without this being caused by an aroused defense. It may also be that some individuals can handle the affective response more readily than any other aspect of pain, and hence they select this as their way of satisfying the suggestion.

The dynamics of pain perception and the ways in which pain manifests itself are far more complex than most persons normally think, and the way their effects get reflected in hypnotic behavior is highly instructive. Some of the best evidence of this comes from attempts to use hypnoanesthesia and hypnoanalgesia in obstetrics and dentistry. For instance, it is not too uncommon to find women who, in spite of appearing to be in a satisfactory hypnotic state and to have demonstrated a more than adequate hypnoanalgesia or hypnoanesthesia in preliminary tests, show at the time of delivery evidence of experiencing some pain. There are women who fail to develop a total amnesia for part or the whole of labor in spite of having shown themselves to be capable of developing

total amnesia in preliminary tests. Then one has instances of women who again are known to be capable of developing a good anesthesia and who, in spite of being told to feel nothing, during labor and delivery report having felt a great many things. Not infrequently, too, a patient feels pain, but as it turns out it does not bother her. This sort of thing is not only very confusing but rather disturbing for many physicians attempting to use hypnosis to control pain. A little bit of inquiry into the matter and thought about it often help to clarify the situation satisfactorily. For instance, the fact that a woman may groan and moan during labor does not necessarily mean that she is subjectively experiencing pain. This often is a reflex-like response to incoming pain impulses which never reach consciousness. A patient may indeed fail to develop total amnesia or anesthesia, but only in respect to non-painful experiences associated with labor. Many women want very much to have some of the experiences of childbirth and commit themselves, unknown to the physician using hypnosis, only to not perceiving pain. Then there are some women who deep within themselves feel that it is morally wrong to bear a child without some pain. They are women who may compromise by retaining some pain, or some memory of pain, or who will feel pain, but lose most of the affect associated with it. The needs of an individual are many and must all be considered in order to understand their behavior out of and in hypnosis. A woman about to have a child may indeed want very much at one level of thought not to experience pain, and simultaneously at a different level of thought she may want pain.

In brief, then, the subject's response to a suggestion will be determined by such factors as his capacities, his defense preferences, his interpretation of the suggestions and of his response as

it develops, and such elements as make for dystonicity. When all of these influences have had their say, the observed response may be a far cry from the ideal, expected response, but may nevertheless be a response to the suggestion *qua* suggestion.

If the above model holds, then it should be clear that the preferential elicitation of automatism would be favored by, among other things, any situation which would (a) either eliminate or interfere with the various ego processes which counter automatism; (b) would in some other way reduce or prevent ego-dystonicity or promote ego-syntonicity; (c) would allow the suggestion to bypass, so to speak, the ego processes; (d) would simplify the fundamental ego structure in certain ways. We know that various depressants of the central nervous system can give rise to an increase in suggestibility. The nature of their physiological action on the central nervous system is well in keeping with the above, and one would indeed predict the likelihood of an enhancement of primary suggestibility when they are used in limited amounts. It is also clear from the above that not all central nervous system depressants nor all dosages will work in this manner, for the action must be selective and affect preferentially certain nervous structures and not others. A depressant drug or a dosage which would put out of commission both the structure essential for ego-activity and that essential for automatism would be of little use here. There are reasons for believing that drowsiness, perhaps light sleep, and light planes of anesthesia would involve alterations of central nervous activity which is consistent with some or all of the above conditions and hence will favor suggestibility. It does not follow that all agents or conditions leading to an altered state of consciousness or indeed all altered states of consciousness will automati-

cally be associated with increased suggestibility. In any event, hypnosis induced by a formal induction procedure is the condition *par excellence* for increasing suggestibility. Whatever it is, and whatever else it does, hypnosis appears to work in large part through changes taking place at the level of reality testing. What exactly does happen remains speculative. In a great many instances one has a rather definite impression that the reality-testing functions have either been inhibited, or have intentionally been put aside by the subject, perhaps with the aid of certain procedures which facilitate this process. In other cases, one has a feeling that the main factor is an alteration of the tolerance threshold for inconsistencies or of the inconsistency threshold. In still other cases, usually deeply hypnotized individuals, one has a rather definite impression that the main effect is that a new reality-criterion has replaced the one which existed at the time of the induction of hypnosis. One would certainly expect that, if these effects take place singly, they would also take place in combination, and there are situations in which one does have the impression that a number of these effects succeed each other in a certain order, as if the one led to the other, or was a necessary step to it. It has, for instance, been my impression that the substitution of a new reality-criterion is usually possible only after reality testing has been, at least temporarily, set aside. In any event whatever does take place at this level presumably constitutes the basis for hypnotic involvement.

The actual manner in which the above and other changes are brought about by the induction of hypnosis or by other means is a topic of discussion which belongs to separate papers, and I shall not attempt to discuss this now in any detail. In general it would seem that hypnotic participation can be

more readily obtained than involvement, and that involvement often grows out of participation. The elicitation of both effects appears, on the other hand, to depend very much upon the subject's intent and the development of a certain relationship to the hypnotist. This, of course, is the basis of commitment.⁴

Hypnotic behavior, I believe, is rather complex behavior, certainly as complex as that which takes place in the absence of hypnosis. If anything, the tendency in past theorizing has been to over-simplify the situation. The present paper, in a sense, is an effort to call attention to this fact. Not only must we be concerned about such things as looking at both the overt and the subjective aspects of the elicited behavior, but we must keep remembering that the hypnotized individual can bring to bear upon the situation and his experiences any combination of ways he has of handling life situations in general, not to mention his innate and acquired capacities.

5. TRANCE STATES AND HYPNOSIS

Although this article is about hypnotic behavior and not about the state of hypnosis, there are a few things which ought to be said about the latter before concluding this paper. As I have stated earlier as well as elsewhere (3), I believe we need to distinguish between hypnosis as a special class of trance states and the totality of all possible trance states. Furthermore, as I have previously pointed out

(3), there may be some question as to whether or not one can justifiably speak of self-hypnosis, spontaneous hypnosis, and hetero-hypnosis in the same breath. That they all describe trance states, I would agree. I will provisionally further agree that we can probably consider these as all belonging to the subclass hypnosis, but I do not believe we ought as yet to identify them each with one another until much more has been done toward studying various occurrences of each effect. In any event, I should emphasize that what I have had to say in this article has been entirely aimed at hetero-hypnosis, although it is applicable to a large degree and perhaps entirely, for example, to self-hypnosis. I will now define hetero-hypnosis as being *a trance state associated with suggestibility or hypersuggestibility and which is directed from beginning to end from without, that is, by another individual*. In particular it is a condition *intentionally* brought about in one individual by another person and a more or less restricted *rapport* exists at all times. The detection of a trance state per se is not always easy, and as it turns out in practice, the one clear and universally accepted evidence one ever has of the presence of a hypnotic trance is the demonstration that hypersuggestibility has developed (4, 8). This is certainly the most often used criterion and has frequently led to defining hypnosis as just a state of hypersuggestibility. This last is not entirely satisfactory as a definition because, for one thing, if there are individuals who are capable of manifesting their suggestibility to its potential maximum without benefit of hypnosis, the presence of hypnosis will not be accompanied in them by an increase in suggestibility. These are probably relatively rare cases (4), and for all intents and purposes the development of hypersuggestibility can be taken, from

⁴ This is not necessarily a contradiction, as it may seem, of the notion of three independent dimensions of depth here. All I am saying is that a certain effect must be present to some degree before another one can come into existence. In my former model (8) generalization of suggestibility cannot occur until some suggestibility has overtly manifested itself, usually through ideomotor action. Yet generalization represents a quite distinct process and dimension.

a practical standpoint, as being a necessary criterion of hypnosis.

Excluding spontaneous hypnosis and self-hypnosis, which may be questionable concepts (3), we can say that *trance states other than hetero-hypnosis* are at least distinguishable from the latter in the fact that they are all largely, if not entirely, *controlled from within* the individual experiencing the trance. This, however, does little toward helping us to distinguish trance states of one kind or another from other states not externally directed or controlled to which they bear at least a resemblance. I must admit that thus far I have not been able to come up with a truly satisfactory solution to this problem. The situation is rather intriguing and most exasperating, because there seems to be no question that at least clinically speaking there is a syndrome or a class of syndromes to which the term "trance" has been justifiably applied with fair universality. Furthermore, the occurrence of the syndrome seems to be wide-spread, in fact world-wide and neither culture-bound nor time-bound (3). But to state what it is which, in all the instances of trance one encounters, leads one to assert, "This is a trance," in clear distinction from states like wakefulness, natural sleep, or general anesthesia, seems to be an impossible problem. It just cannot be done in a way which is fully satisfactory. I do have some ideas about the matter, however, which, if they do not solve the problem, may help toward an eventual solution.

To begin, as nearly everyone will agree, trance states are states of altered consciousness. Traditionally, this has often even included states of unconsciousness (3). But I feel that unless one places some limitations upon the term it becomes a rather useless expression. My inclination at present is to at least exclude from the definition of trance any state of un-

consciousness which is correlated with a demonstrable somatic alteration, either in the form of a generalized, deep, depression of the central nervous system, or a localized depression of certain centers vital for clinically defined consciousness. For this reason I do not consider such conditions as deep sleep, surgical anesthesia, and syncope as trance states. And this, of course, is in keeping with the fact that the physiological correlates of hypnosis are quite distinct from those of these three conditions just mentioned. It is unfortunate that so little has been done on studying the physiological correlates of other so-called trance states, for it makes it rather difficult to generalize what is true for hypnosis to other trance states. The fact that the above does seem to hold true for the yogic trance does, however, lend some support to the provisional generalization that trance states are states of altered consciousness in which the physiological correlates of deep sleep, surgical anesthesia, syncope, and more generally of states of unconsciousness due to widespread and deep depression of the central nervous system are absent. I want to emphasize that I am speaking here of deep, widespread depression of nervous activity and not of superficial, mild depression. Just how deep, how widespread, has to remain for the present unspecified. On the other hand, as will become clear shortly, I am by no means excluding states correlated with lesser or more localized central nervous depression from the trance class. Nor am I necessarily limiting myself to depression of central nervous activity. A blocking of nervous conduction or some other physical process which, by interfering with nervous integration, would lead to an equivalent situation for normal, integrated, conscious activity, as does deep widespread depression, are included in the above considerations.

But let us now leave temporarily these physiological considerations and return to the phenomenological aspect of the problem. One of the features about trance states other than "unconsciousness"⁵ which I find rather striking is the apparent continuation of certain aspects of wakeful integrative, co-ordinated, adaptive behavior into the trance state. There is a continuation of the personality as a whole, or again of certain essential aspects of the ego-structure. It is true that certain elements seem to be missing or to be de-emphasized, the integration is weakened, yet there is a certain unity of the individual *qua* individual which seems preserved. A Rorschach given to an individual in a hypnotic trance is much the same as when given outside of hypnosis. There is a clinical picture here which is difficult to describe, yet which is I believe quite important to recognize. I feel that the following quotation from the *Encyclopaedia Britannica* regarding the nature of trance expresses rather well what I am trying to say in the above. "There are no well-marked and characteristic physical symptoms of the trance state, though in many cases the pulse and respiration are slowed and reflexes diminished or abolished. The common features which more than any other determine the application of the name seem to be a relative or complete temporary indifference to impressions made to the sense organs, while yet the entranced person gives evidence in one way or another, either by the expression of his features, his attitudes and movements, his speech or subsequent relation of his experiences, that his condition is not one of

simple quiescence or arrest of mental life, such as characterizes the state of normal sleep and the coma produced by defective cerebral circulation, by toxic substances in the blood or by mechanical violence done to the brain."

To the above reference to "normal sleep" I would now add the qualification of "dreamless" sleep, because recent findings with respect to sleep accompanied by dreaming (2) suggest that the dream state may well be a trance state. In this connection Kleitman (2) gives the following pertinent description of what he feels is the difference between dreamless sleep and sleep with dream: "The hallucinatory content of dreams would appear, in this light, to be nothing more than the expression of a crude type of activity carried on in the cerebral cortex during a certain phase of sleep. The contrast with the kind of cerebral activity that characterizes the waking state in healthy adults and older children is instructive. Responding to the impulses that stream in from the various receptor organs of the sensory system, the cortex first subjects them to analysis. It refers the present moment of experience to its memory of the past and projects past and present into the future, weighing the consequences of action not yet taken. A decision is reached, and the cortex generates and integrates response. This is manifested in the action of the effector organs (mostly muscles) or in the deliberate inhibition of action. (A great deal of civilized behavior consists in not doing what comes naturally.) In dreaming the same kind of cortical activity proceeds at a lower level of performance . . . In consequence the integration of the cortical response is incomplete . . ."

This description describes rather well what I mean by the notion of *simplification* as applied to such matters as patterns of behavior, psychic activity and structure as a whole, and patterns of integrated nervous activity.

⁵ From here on this will be understood whenever I refer to trance states, unless otherwise specified. Stated a little differently from the above, I am primarily concerned here with one particular class of definitions of trance, those which are about states other than clinical unconsciousness.

Simplification is a process whereby a system acquires a simpler structure but retains a certain basic unity or Gestalt. Elements are lost, interactions weakened or eliminated, but certain unitary properties of the system or structure are preserved. As an analogy I like to think of a house. One can remove the exterior wall or the interior wall, and structurally there is still a house left. One can even go on and remove certain parts of the internal frame and still retain something with the quality "house" to it. Topologically speaking, I believe that one of the things which is preserved here, that is, which is invariant under this kind of transformation, is the topological "connectedness" of the structure. There are numerous reasons why I can not and do not want to expand on this in these concluding remarks. I believe the notion of "simplification" as I use it in this article can be formally and exactly defined, but the above should suffice and at least give some idea of what I mean by it.

I will not go on to speculate that many, perhaps all, trance states are conditions associated with a simplification of the intentional system, and in particular of the fundamental ego-structure. The outcome is what might be called in some instances a *derived ego structure* and in others might perhaps be better labelled as a *pseudo* or *substitute ego structure*. This last presumably occurs when a complex automatism takes over and shows ego-like characteristics. Again, without going into detail I would like to point out that I make a distinction between the "simplification," "fragmentation," and "fractionation" of any system or structure. From a practical standpoint and when applied to the ego-structure, the first leads to trance behavior, the second to psychotic behavior, and the third to so-called dissociative behavior. This last should make it clear that I do not perceive trance

behavior and hypnotic behavior in particular as being fundamentally dissociative. Not that these cannot take on this form, but if they do, I see it as arising out of aroused ego-defenses in accordance with the earlier contents of this article or because this feature has been prestructured into the behavior by suggestions, expectations, etc. Preliminary work I have been doing on a topological representation of these different kinds of alterations lead me to believe that they bring about psychic structures which are each isomorphic with quite characteristic and distinguishable types of linear graphs. In addition to simplification, or in its place, it is possible that a restructuring of a sort of the intentional system is also responsible for trance behavior.⁶ I am at present inclined to hold that whatever else may give rise to trance states, simplification is responsible for many trance states, and in particular for the hypnotic trance.

SUMMARY

Hypnotic behavior is a type of trance behavior. It is as complex as behavior seen outside of trance states and should be understood in terms of the same psychological principles which apply to normal, wakeful human behavior. Hypnotic behavior appears to range from pure automatism to automatism much influenced by the ego, but in such a way that it can be said that automatism dominates. In the more general case, the resulting behavior may be seen as the result of an interaction between tendencies to produce automatisms and tendencies to react intentionally and unconsciously both to the stimulus eliciting the automatism and to the automatisms which are

⁶ By restructuring I simply mean here a rearrangement of the parts or elements into a new interactive configuration. There is no loss or dropping out of elements as there is in simplification.

evoked. Innate and acquired capacities and ego defenses play a major role in the determination of the character of the response to suggestions. Hypnotic behavior is brought about by psychological and physical influences which reduce or inhibit ego controls, ego processes in general and associated processes, or prevent these from being effective, while at the same time leaving unaffected and even en-

hancing the production of automatisms. Hypnotic behavior is to be distinguished from other trance behavior in terms of being controlled from without in contrast to being controlled from within. Hypnotic behavior appears to be multidimensional, having at least a dimension of participation, of involvement, and probably of commitment.

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AN EVALUATION OF THE DANGERS OF MEDICAL HYPNOSIS¹

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The dangers of hypnosis are neither vague nor mysterious. They are definite and clearly definable.

DANGERS ARISING FROM PERVERSE MOTIVATION

Once it becomes known that a physician practices hypnosis, it is inevitable that certain perversely motivated persons will consult him seeking hypnosis for the relief of various symptoms. However a psychiatric history soon discloses that it is not so much the desire for the relief of the symptom which has brought the patient to consultation, but rather that he comes for the experience of hypnosis itself. The patient himself is not aware of this motivation. He has genuine symptoms, and he seeks relief through hypnosis unaware of his rationalization. When a patient asks for help by hypnosis in preference to other methods of treatment we should always seek his real reasons. He may have a sound reason, or it may be that he is merely rationalizing a perverse motivation.

Over-dependent persons are often motivated in this way since they unconsciously hope to form a dependent relationship in hypnosis which will satisfy inner needs. Similarly the masochistic woman may seek hypnosis to satisfy her unconscious hope to be overpowered. Masculine-aggressive women often seek hypnosis for the opposite reason. They believe that they will not be hypnotized, so they seek

hypnosis to prove to themselves that they need not yield to any man. It is well-known that pre-psychotic schizophrenics often seek hypnosis for some long-standing symptom in the unexpressed belief that hypnosis will help to free them from ideas of influence. Persons of either sex may seek hypnosis from a male physician from unconscious erotic drives.

Perverse motivation of this nature is a potential danger to the patient in medical practice. The over-dependent patient may be made still more dependent. The masochistic woman should be treated in psychotherapy. The pre-psychotic schizophrenic may develop an overt psychosis. The erotically motivated patient of either sex will maintain his symptoms in order to prolong the satisfying experience of the treatment. The point I would make is that these are not just interesting theoretical speculations, but are the ordinary day-to-day experience of physicians who work in medicine whether using hypnosis or not. Of course, with the adequately trained physician these dangers cease to be significant, but they cannot be lightly dismissed in the case of the general practitioner whose only training in hypnosis is a knowledge of the technique of induction.

Unfortunately the dangers of perverse motivation are not confined to the patient. I believe that many physicians satisfy inner drives of their own personality when they are hypnotizing patients. This in itself is not necessarily harmful to the patient. Many such physicians undoubtedly do good medical work. But the situation represents a danger to the patient because this type of motivation in the physician may easily distort his judgment.

¹ EDITOR'S COMMENT: This paper and the one immediately following deal adequately and well with a much discussed topic. Their approach to the topic is as widely divergent as their points of origin, but it is at once apparent that informed opinion, though differently expressed, is in essential agreement from one end of the globe to another.

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The process of hypnotizing the patient can unconsciously satisfy aggressive, sadistic, hysteric, or erotic drives within the physician. An authoritative induction allows him to overpower and reduce to submission the most successful and influential people in the land. The sight of the patient struggling to move his limbs which have been rendered immobile, or the unnecessary testing for anesthesia by sticking pins in the patient may well be satisfying latent sadistic impulses in the physician. Any tendency of the physician to demonstrate his technique of hypnosis to an audience wider than the immediate needs of teaching suggests the satisfaction of hysteric drives. So does the dramatic exposition of hypnosis in dentistry. The physician who hypnotizes many women patients and only few men, unless he is an obstetrician or gynecologist, is probably satisfying erotic drives within himself, and conversely the male physician who most frequently hypnotizes men may be giving expression to his own latent psychosexual inversion.

We must not forget that success in any occupation is to some extent determined by the degree to which it satisfies the needs of the personality of the individual. The danger with hypnosis is that it gives such easy satisfaction of these drives in a way that it can distort judgment, so that the physician may unconsciously lead the patient into treatment for other than logical reasons. But, of course, this is also true in other medical fields.

DANGERS TO THE PERSONALITY

Increased suggestibility and overdependence on the physician have long been considered as dangers of hypnosis.

As a general rule, with each succeeding induction the patient becomes more and more easily hypnotized until a stage is reached when there is little further increase of suggestibility. It has often been stated that this in-

creased suggestibility could make the patient vulnerable to hypnosis by some unscrupulous person. The answer is simple. Patients who are easily hypnotized are given the suggestion that they will never go into hypnosis except for a physician or dentist, and only if they wish to themselves. A personal experience indicates that this procedure does in fact protect the patient. The patient's main complaint was lack of self-assertion. After a number of sessions he was given the suggestion that he would never go into hypnosis unless he wished. A few sessions later I was unable to hypnotize him.

The physician can make the patient dependent on him in any branch of medicine. Hypnosis provides a situation which may readily allow such dependence. But this is not a danger to the patient, provided that the physician is aware of the situation and acts accordingly. In an attempt to evaluate the degree of dependency of my own patients, I investigated the time which various groups of patients took to pay their accounts. There was no significant difference between patients treated by hypnosis, by waking psychotherapy, or by electroconvulsive therapy.

I believe that there is another potential danger to the personality of some patients. Persons who come into the psychiatric diagnosis of inadequate personality or personality defect are usually very easily hypnotized by an authoritative approach. These individuals lack integration in their personality, and because of this they find it hard to stand up to better integrated persons. Authoritative induction, particularly when dissociation is emphasized, may tend to increase this lack of integration. If these patients are hypnotized, a genuinely passive approach should be used. A possible danger is the acceptance of an authoritative induction technique because of its great-

er ease instead of the preferable more difficult technique of passive induction.

UNFULFILLED POST-HYPNOTIC SUGGESTION

This is the most serious and yet easily avoided danger of suggestive therapeutics. If a patient is given a post-hypnotic suggestion and he is unable to carry it out, he may develop any grade of disturbance from transitory and inconsequential anxiety to a severe acute anxiety reaction and fulminating psychosomatic disorder. The patient may be prevented from carrying out the post-hypnotic suggestion, either by external environmental factors or by internal psychological factors. When these anxiety reactions occur, it is always in response to a specific as opposed to a non-specific post-hypnotic suggestion and oversight of the importance of careful wording. Another important point is that anxiety reactions following an unfulfilled post-hypnotic suggestion occur much more frequently in a therapeutic situation than in an experimental situation. This may result from the fact that the circumstances of an experiment in themselves convey some kind of non-verbal suggestion that the post-hypnotic suggestion is only an experiment, so it really does not matter, whereas in therapy the intense relationship with the physician and the strong motivation of the patient give much greater importance to the post-hypnotic suggestion. However, the almost complete absence of anxiety reactions after unfulfilled post-hypnotic suggestions in experimental work has led some workers to underestimate the importance of this danger in therapy. One of my patients who was unable to fulfill a post-hypnotic suggestion to sleep at night developed a hyperacute anxiety state with a generalized dermatitis. It is my belief that specific post-hypnotic suggestion should be used very cautiously and very sparingly or worded to spare the patient

anxiety in case of failure. Although specific post-hypnotic suggestion is more powerful than non-specific, nevertheless when the suggestion is expressed in non-specific terms it is still very effective, and in my opinion this should be the main vehicle of suggestive therapeutics, as it completely eliminates the danger of unfulfilled post-hypnotic suggestions.

TRAUMATIC INSIGHT

The hypnotized state alters the functioning of repressive mechanisms. It is this that leads to the ventilation of repressed material in hypnosis which makes hypnoanalysis possible. Traumatic insight occurs when repressed material, which is intolerable to the patient, suddenly comes to his awareness. This may concern previously unconscious homosexual or incestuous drives. The patient may be overwhelmed with the impact of panic and anxiety.

Traumatic insight is an acute medical emergency. The patient must immediately be re-hypnotized and given suggestions of calm and ease. An amnesia can be induced or can be allowed to develop spontaneously. It is the induction of hypnosis which presents the difficulty. The patient experiencing traumatic insight is quite unable to cooperate because of the shattering effect of his anxiety. He must therefore be hypnotized by an authoritative approach or the use of pre-conditionings. The direct stare used in its most forceful and authoritative way may be necessary. These considerations show how important it is for any physician who uses hypnosis to be skilled in more than one technique so that he can meet whatever emergencies may arise.

Traumatic insight occurs most frequently in hypnoanalysis, when an abreaction may reduce the depth of hypnosis so that traumatic ideas surging through the patient's mind reach his full consciousness. In hypnography

and hypnoplasty in which the hypnotized patient expresses unconscious material in painting and modelling there is always risk of traumatic insight, because in these techniques the patient is unable to defend himself by amnesia and denial as in verbal hypnoanalysis. However, the important point is that the very fact of inducing hypnosis interferes with the repressive mechanism, and on some occasions in an unstable patient abreaction and traumatic insight can occur when hypnosis has been induced for any purpose at all. This means that the physician who uses hypnosis should be able to control the severity of abreaction by moving closer to the patient emotionally, increasing the depth of hypnosis, and giving suggestions of calm and ease.

PRECIPITATION OF PSYCHOSIS

There are many reports of patients becoming psychotic following treatment by hypnosis that require careful evaluation. The way in which pre-psychotic schizophrenics become motivated for hypnosis has already been discussed. It seems that they have the feeling that hypnosis might somehow clear away the ill-formed ideas of influence which are only just on the threshold of their awareness. This is by no means uncommon, as I myself have seen a number of such patients. If these patients had been hypnotized, it would seem likely that their already existing latent ideas of influence would have been crystallized, and it would have become obvious to all that the patient had become schizophrenic following but not because of hypnosis. I have seen two such cases following hypnosis by a lay hypnotist.

We can now evaluate the danger. It is the danger of not recognizing the pre-psychotic schizophrenic. This danger is very small with the physician who has had adequate training, but with others it may be quite real.

There is another group of patients who are more difficult to describe and about whom the evidence is not quite so clear. These are patients who are referred for treatment by hypnosis for sexual disorders, either frigidity or impotence. Psychiatric examination shows them to be schizoid personalities and latently homosexual. Within these limitations they may be reasonably stable. With these patients the frigidity or impotence is usually a defence against the intimacy of a relationship which the patient is psychologically unable to tolerate. It seems possible that some such patients might be precipitated into a schizophrenic psychosis by abolishing their symptom by suggestion. This danger is met by the careful medical and psychological appraisal of all patients referred because of frigidity or impotence. However, a knowledge of this danger should not deter the physician from treating other cases of psychogenic frigidity or impotence by hypnosis, as many of these patients respond extremely well.

SUBSTITUTE SYMPTOM FORMATION

When a symptom is maintained by vicious circle mechanism or by habit in the absence of serious psychological conflict, it can usually be removed by hypnotic suggestion. The patient gains permanent relief, and there are no untoward side effects. But if a patient is relieved of a symptom which has been maintained by active psychological conflict, then the symptom either returns or a comparable substitute symptom appears. In these circumstances it is possible for the substitute symptom to be more disabling than the original condition. This mechanism has been well-known for many years, and has been one of the factors which brought medical hypnosis into disrepute, although greatly overemphasized. However, this complication only occurs when cases are wrongly selected for

suggestive therapy. When ordinary medical precautions are taken, the dangers of substitute symptom formation are extremely small indeed; as evidence of this, I am unable to quote one single example from my own experience.

There is an important point of technique in relation to substitute symptom formation. Just as the complications of unfulfilled post-hypnotic suggestion, substitute symptom formation occurs only after specific suggestion, never after non-specific suggestion. Accordingly, the risk of substitute symptom formation can be eliminated by giving the suggestions in non-specific terms in a process of gradual amelioration. This comes particularly easily if the symptoms are some form of psychic disquiet rather than a bodily conversion. In these circumstances, the non-specific suggestions seem to work for psychological homeostasis; and, although an underlying conflict may not be resolved, there is a lessening of overt anxiety, symptoms are reduced in severity, and there is no danger of substitute symptom formation.

SUDDEN PANIC REACTIONS

These reactions may occur either from the patient's sudden fear of the closeness of the emotional relationship with the physician, or from his sudden awareness that he has in fact been hypnotized.

A female patient may suddenly feel the hypnotic relationship as something erotic. It seems that this reaction occurs in those women who equate any close emotional relationship as erotic experience. The induction commences normally, then the patient becomes anxious, and if appropriate steps are not taken the anxiety soon mounts to panic. However, I have observed that patients with this type of mental make-up make oblique communications of their state of mind to the physician. These signals must be watched for and

heeded. These patients can, in fact, be hypnotized by using a very distant and formal approach in a genuinely passive induction.

A similar panic reaction may occur during the induction of a latent male homosexual. The patient suddenly feels overwhelmed by the closeness of the relationship and develops an acute panic. In practice, this danger is met by the physician always being on the alert for the latently homosexual patient. Of course, latent homosexual patients can often be satisfactorily treated in hypnosis in psychiatry, but this type of reaction may represent a hazard for the uninitiated general practitioner.

Panic reactions also occur from the patient's sudden awareness that he has been hypnotized. Sometimes a patient will give full verbal agreement to treatment by hypnosis, but he still may retain some unexpressed reservations. Just at the point when hypnosis is about to be induced he may decide to defend himself by simulation. He believes that if he voluntarily carries out all the physician's suggestions he will not be hypnotized, as he is acting of his own free will. Of course, if a patient is encouraged to simulate hypnosis he soon becomes really hypnotized. If such a patient is then strongly challenged, he finds that he is unable to do what he is challenged to do. The fact that he is really hypnotized comes to him as a shock and provokes sudden anxiety. The situation is relieved by the therapist immediately moving closer to the patient emotionally, giving suggestions of calm and ease, and avoiding challenges.

DANGERS FROM FAILURE OF COMMUNICATION

I remember how a patient was once very confused and anxious at the end of a session. It happened that he was rather deaf and had not properly heard my suggestions to wake up. I rehyp-

notized him and reawakened him, and there were no ill-effects.

Mild transient anxiety reactions quite commonly occur in foreigners whose use of English is not complete. However, more significant reactions may result from the use of some word which has some special meaning for the patient, of which the physician is unaware. For instance, some people unconsciously equate the idea of sleep with death. In such a person the suggestion of deep sleep may provoke an apparently inexplicable anxiety reaction.

Sometimes the failure of communication concerns the way in which we communicate with the patient by our behavior. One writer on medical hypnosis states that most of his female patients experience an orgasm when hypnotized. It would seem likely that this results from patient's misinterpreting something about the physician's behavior.

Loss of hypnotic rapport represents a failure of communication. This may occur when an abreaction is allowed to continue spontaneously for too long. The patient, entirely preoccupied with the expression of his emotions, loses contact with the physician. This is prevented by the physician maintaining contact throughout the abreaction by making sympathetic verbalizations appropriate to the emotion expressed by the patient. This is an important point of technique, as the patient usually wakes soon after hypnotic rapport is lost, and in these circumstances he may suffer traumatic insight or loss of confidence in the physician.

THE POSSIBLE UNSCRUPULOUS USE OF HYPNOSIS

This of course is not a danger in the medical use of hypnosis. Just as in any other medical procedure, the patient's safety lies in the reputation of the physician.

It is sometimes possible to hypnotize a person without his knowledge of what has happened. I know this to be a fact, as it has twice accidentally occurred in my practice, on both occasions with men who did not know that I practice hypnosis. It is also possible to hypnotize some persons of poor psychological integration against their will and with them actively resisting consciously but not at a deeper level.

However, there is good evidence that a hypnotized subject will not do anything which is contrary to the moral code of his normal waking personality. If such a suggestion is made, the patient wakes from hypnosis. Thus a thief might be enticed to steal, but not an honest person.

These conclusions are based on experimental work in which the subject has been given direct suggestions to perform the immoral act. However, some recent recognizably experimental work indicates that a hypnotized subject may possibly be led to perform an immoral act if the hypnotic situation is so structured that the subject performs the act in response to an hypnotically induced delusion. Such theoretical possibilities, of course, do not concern the use of hypnosis in medicine.

DIFFICULTY IN WAKING

Very occasionally at the end of the session, when we give the patient the suggestion to wake up, he just continues in a deep hypnotic sleep. There is a hopeless feeling of loss of contact. Actually, this state of affairs rarely results from real loss of rapport. It is rather an expression of hostility by the patient. He has been told to go to sleep. He has gone to sleep. If he is asleep, he cannot hear anyone talk to him. He thus uses the situation to punish the physician. We must remember that the patient is not just feigning. He is in fact deeply unconscious, and quite beyond being aroused by ordinary means. We deal with the

situation by changing the motivation to remain in hypnosis. We merely tell him he can wake up when he likes, and with this he is left by himself. In the six or seven times this has occurred in my practice the patient has always awakened quite normally in ten or twenty minutes.

Patients and relatives sometimes bring up the question of what would happen to the patient if the physician should drop dead or otherwise be unable to attend the patient whom he has hypnotized. There is ample evidence that in such circumstances the patient will gradually make a transition from hypnotic sleep to natural sleep, and then wake in the normal way. The only difficulty is that this sequence of events might take several hours. These transitions from hypnotic sleep to natural sleep and back again are often observed in ordinary practice, sometimes in the course of a few moments.

DANGERS OF INCOMPLETE WAKING

Iatrogenic symptoms may persist after waking as a result of failure to give adequate counter-suggestions to nullify the suggestions used to induce hypnosis. Thus, if a patient has been given suggestions of heaviness of his arms he may complain of this after waking. This only happens as a result of a gross failure of technique and does not constitute a hazard in competent hands.

There is, however, a much greater danger of incomplete waking which may result from not allowing sufficient time for the counter-regression from hypnosis to waking to take place. Everybody is aware that different patients take varying times to go into hypnosis, yet many physicians seem to think that all patients can make a split-second change from hypnosis to waking on the count of a certain number. This is manifestly not so. The danger, and this is a very real one, is that the patient may be allowed to

leave the consulting room before he is fully recovered. The patient's ability to collect his hat and coat and make another appointment is not in itself evidence that he has fully returned to his normal state of alert critical mental functioning and is fit to drive an automobile.

SIDE-EFFECTS OF HYPNOSIS

We are now all so accustomed to considering the side-effects of drugs that perhaps it is not surprising that several patients have asked if there are any side-effects from hypnosis. Fortunately, the side-effects of hypnosis all work for the patient's good. Characteristically there is a lessening of tension, greater calm, greater ease of doing things, better tolerance of frustration, and better sleep. These side-effects are often quite marked, even in the complete absence of any suggestions in these areas at all.

However, it would seem that the continued use of hypnosis may produce side-effects in the physician himself. The history of medical hypnosis shows beyond doubt that many physicians who have used it have been rather odd characters. The question arises as to whether the use of hypnosis contributed to this oddness of character. It would seem likely that in some cases this has been so. Thus hysteroid practitioners have become more hysteroid as a result of the continual satisfaction of this element of their personality. Similarly authoritative persons have become more authoritative, those of religious turn of mind have tried to assume saint-like qualities. Thus, the practice of hypnosis is a possible danger to the physician in the way that it may tend to exaggerate certain facets of his personality.

CONCLUSION

The induction of hypnosis by an unskilled person can represent a real danger to the subject, but the dangers

to the patient in the hands of an adequately trained physician are very small indeed. Because the dangers are definite and clearly formulated, adequate training in this respect should not be unduly difficult.

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HYPNOSIS: AN ANALYSIS OF UNFOUNDED CRITICISMS¹

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Throughout the history of medicine, vociferous antagonists have always been ready and anxious to criticize, ridicule, and wag their woeful tongues in warnings against the phantasied dangers of any unorthodox or unconventional modality. Not too long ago, psychiatry and psychiatrists were looked upon with suspicion, were being castigated and ridiculed for the strangeness of their theories, principles, and practices. Dire warnings of the dangers of psychotherapy and psychoanalysis were being publicized. More recently, unjust and unwarranted criticism has been directed towards hypnosis, hypnotherapists, and hypnotherapy. It is quite apparent that unconscious resentment of the non-psychiatrists' acceptance and application of psychiatric principles and techniques has resulted in unfounded criticism of hypnosis. Even more unfortunate are the warnings that are being promulgated and publicized by a few clinicians and laboratory workers, who use hypnosis themselves but who feel that, through some magic formula and alchemy, they alone have attained that degree of professional maturity which gives them the exclusive right and privilege to utilize hypnotic techniques.

An analysis of the specific criticisms of hypnosis should be enlightening.

First of all, let us analyze the so-called dangers of hypnosis in the light of contemporary knowledge and scientific observation. Hypnosis is an art of interpersonal relationship, and the hazards inherent in hypnosis are no

different from those in any interpersonal relationship. The fear that hypnosis may promote intense dependency cannot be justified by factual evidence. The patient who seeks a dependency relationship does not need hypnosis to develop and satisfy his emotional need (1). Therapeutic relationships at a conscious level are just as likely, or unlikely, to develop dependency in a susceptible individual. As for hypnosis precipitating a psychosis, the same unrealistic and unscientific reasoning techniques may be applied to prove that in a patient who had taken aspirin for the relief of a headache and subsequently developed a psychosis the aspirin was the etiological factor in the development of the psychosis. The relationship is temporal and not causal (2). Erickson states that the tremendous difficulties encountered in producing personality changes of a desired therapeutic character make evident the illogic of assuming that the time- and situation-limited hypnotic trance can bring about significant harmful effects, when earnestly desired beneficial effects are so hard to achieve (2).

Symptom removal, under hypnosis, has been criticized as being dangerous, usually by individuals who do not recognize the natural limitations of hypnosis. Hypnosis is not a miracle modality that can be successfully used as a bludgeon to belabor the patient into abandoning important symptoms that are serving as a defense against intense anxiety, or as an important way of adjusting the patient to his life situation (3). The example used by one critic (4) of hypnosis serves only to demonstrate the naiveté of accepting post hoc observations as scientific proof. The case cited was that of a man

¹ Presented at the Congress of the Pan-American Medical Association in Mexico City, May 5, 1960.

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who was successfully treated under hypnosis for bruxism but, at some later time, awakened during the night in the act of choking his wife. The conclusion we are expected to uncritically accept is that removal of the bruxism directly resulted in the choking episode. Are we to assume that the choking episode would not have occurred if the patient had continued to grind his teeth? Are we also to assume that a headache, which conceivably could be the manifestation of hostile and aggressive feelings, dare not be treated on a non-hypnotic level with a drug such as aspirin, because symptomatic relief might precipitate a more serious symptom? Nevertheless, the experienced hypnotherapist utilizes direct symptom removal techniques rather infrequently, not because they are dangerous, but because they are ineffective. The usual goal in symptom removal is to aid the patient to function adequately and to minimize the disabling aspects of his symptoms while still permitting the patient's neurotic needs to be served (5). Techniques which have been developed by Erickson and can be applied effectively and without inordinate fear on the part of the therapist include symptom substitution, symptom transference, symptom utilization, and symptom amelioration.

The statement (6) that the general effectiveness, safety, and ease of administration of pharmacological anesthesia far outweigh any advantage of hypnosis is without basis in fact. In the field of obstetrics, it has been estimated that about ten percent of all maternal deaths in the United States are attributable to anesthesia (7). Under hypnoanesthesia there is no respiratory or circulatory depression in the mother or fetus, with no anoxia, asphyxia, or cerebral damage. The late Dr. J. B. DeLee stated, "The only anesthetic that is without danger is hypno-

tism" (8). Anesthesiologists are becoming aware that hypnosis can be used effectively as an induction to general anesthesia to allay fear and terror, conscious or subconscious, to reduce the amount of depressing pharmacological agents and to minimize psychic trauma, especially in children (9).

If we accept Meares' (6) criticism that perverse motivation may exist in a physician who uses hypnosis, we should be consistent and analyze the physician who specializes in the use of psychiatric techniques; the psychiatrist's emotional drives and needs may have been the motivating force that led him into that particular specialty. Could we not be just as facetious in analyzing the motivation of physicians utilizing other techniques? The obstetrician may be motivated by his latent desire to "deliver a baby," but realizing that anatomically and physiologically he is incapable of performing such a function, he subconsciously reacts in fulfilling his emotional needs by becoming an accoucheur. What about the gynecologist, the urologist, the proctologist — shall we apply similar psychoanalytical techniques criticizing their perverse motivations?

As for the exhortation that a "sick doctor should not use hypnosis (10)", is this not self-evident? A "sick" doctor not only should avoid the use of hypnosis, he should spare his patients and himself by totally abstaining from the practice of medicine. But if one had to submit to some type of therapy at the hands of a "sick" doctor, hypnotherapy would very likely be the least dangerous. Compare it with surgery at the hands of a "sick" surgeon, anesthesia administered by a "sick" anesthesiologist, a potent drug given intravenously by a "sick" internist, or even orthodox psychotherapy conducted by a "sick" psychiatrist.

It is also erroneous to conclude that hypnotherapy implies the application

of all the complex and complicated psychiatric techniques. The hypnotically oriented physician limits himself to those techniques with which he is familiar and competent; he also confines his application of hypnotic techniques to those problems that fall within the limits of his background and training. Furthermore, those physicians who are hypnotically oriented are much more alert to possible overt psychiatric conditions which require referral to psychiatrists than the physicians who are less concerned with the influence of the psyche. The critics of hypnosis should be aware of the many fields of medicine, other than psychiatry, in which a great number of patients require therapy directed toward the emotional components of their symptom complexes. A recent survey of 253 unselected admissions to Mt. Sinai Hospital in New York City disclosed that 67 per cent of the patients were suffering from perceptible nervous strains in addition to their bodily ills. In 85 per cent of those admitted for duodenal ulcer, colitis, or asthma, a diagnosable but unrecorded emotional disorder had prevented a satisfactory response to specific treatment (11). It is becoming more apparent that the modern trend in medicine is towards the integration of the simpler techniques of psychiatry into

the general practice of medicine and its specialties. In recognizing the person in the body, in accepting the patient as a contributor to his illness, in treating the total patient, hypnosis offers, in selected cases, a methods of communication which is unexcelled. It is no mere coincidence that the increased appreciation of the psychosomatic orientation in medicine is being paralleled by a more universal acceptance of hypnotic techniques.

Psychotherapy will continue to be practiced by all clinicians, knowingly or unknowingly, because the doctor-patient relationship often proves therapeutic in itself. Hypnosis, although it is not a form of therapy, is an art of interpersonal relationship; it arouses and activates introspection; it is a special state of awareness; it increases the capacity of the individual to respond to ideas; it is a technique by which one communicates with a patient, offers ideas, and gives to the patient the opportunity and freedom to respond to ideas and to accept the help desired; it establishes an unusual kind of interpersonal relationship and rapport which is so well adapted to anxious, frustrated, despairing patients; it lends itself ideally to the type of psychotherapy which involves guidance, reassurance, and persuasion in an atmosphere of genuine interest and enthusiasm (12).

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HYPNOTIC ANALYSIS OF AGGRESSION-BLOCKAGE IN BASEBALL PITCHING

Warren R. Johnson, Ed.D.¹

A professional baseball player requested hypnotic suggestions which would help him perform consistently as he could ordinarily perform only occasionally, that is, with aggressiveness and concentration. His complaint was that he was usually too "easy going" and friendly to be very effective "on the mound." He was at his best when he was unreasonably angry.

In accord with standard procedure in such research as this, a psychiatric consultation was secured. Following is an excerpt from the evaluation of this subject: "This man complained of a specific difficulty, pitching in baseball. That is, he has an indifferent, carefree, nonaggressive attitude associated with lack of concentration upon pitching which impairs his effectiveness. If he is angry he is much more aggressive, concentrates and is effective as a pitcher. He hopes that hypnosis will enable him to be 'mean' and more effective.

"On examination he is found to be a tall, pleasant-looking, amiable, dignified, co-operative young man, at ease and spontaneous in the interview. He denies manifest anxieties, depression, obsessional brooding, or other symptoms. He appears to be a stable, normal, well-integrated personality. He handles unpleasant people by avoiding them but can speak up in his own defense and become overtly angry. He reports having felt very anxious when he was starting to play serious baseball. He wonders if his carefree attitude might not be a denial of anxiety now. Another speculation is that he may be inhibited in aggressive pitching because of some unconscious guilt

over aggression. Only when angry and when feeling justified in aggression can he be 'mean.' This could relate to inhibiting his aggression with his younger brother early in life.

"I see no contraindication to his being part of the hypnosis project."

Hypnotic training of the subject progressed satisfactorily. Post-hypnotic amnesia was fairly well developed after the second session; during the third, post-hypnotic amnesia and various hallucinations were achieved. Age-regression seemed feasible and was successfully suggested.

In this third session the subject was regressed to a "happy birthday" when he was eight years old. In a pleased and somewhat childish manner he told of being with friends and described what was taking place. At one point they were playing baseball, and he stated that his little brother, who was five years old at the time, was playing very well. He was asked, "Do you ever get into fights?" He was entirely calm in answering, "Yes, sometimes. I make out O. K." "With your brother, ever?" To this the subject responded with feeling, "I knocked his teeth out with a stick after he hit me with it." He spoke now as a perturbed adult. He was now asked, "How old was your brother when this happened?" "Eight or nine, I guess," he said somewhat impatiently. He was then asked, "How old are you right now?" He answered, "Twenty-four," and he opened his eyes, spontaneously out of the trance.

The investigator asked, "What aroused you from the trance?" He smiled and said, "I wasn't supposed to do this, was I?" Then he was quick to say, "The typewriter in the next room

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woke me up. The ticking got louder and louder."

"Do you remember what we were talking about before you woke up?" "Yes, I was a little boy . . . my brother. Say! that did happen. He hit me with a stick so I let him have it. Knocked his teeth out with a stick. He was a mess with blood all over his mouth. I didn't even get smacked for it, either. When my folks saw him they rushed him to the hospital. They just forgot about me in all the excitement, and when they got back, well, they couldn't very well bat me then when it was all over."

When the subject spoke of not being punished for his attack on his brother he frowned, and his tone was angry.

He was then asked, "Do you ordinarily remember this experience easily?" "Oh, I remembered that I hit him," he said rather grudgingly and in an uncertain kind of way. "But not all those details—rushing him to the hospital, how I felt and all those other things. This is really very interesting. I'm glad I remembered it," he added, relaxing and smiling easily.

When asked, he expressed a willingness to return to hypnotic levels, and did so easily upon being given his induction signal. He was then told that his left index finger would be his "no" finger and that it would jump spontaneously if any subject mentioned should be avoided. He was asked if he would care to or be able to explain why he had come out of the trance a few minutes before. His left finger jumped, but he gave no sign of being disturbed and stated that he felt excellent. The question was not repeated.

In the conversation which followed (the subject remained in a deep trance) it became evident that he did not distinguish socially acceptable from socially unacceptable aggression; for, apparently due to the youthful experience with his brother, aggression

as such was basically unacceptable behavior. When the distinction between kinds of aggression, the difference between free-flowing but sportsmanlike versus vicious or unsportsmanlike aggression, became quite clear to him, he expressed certainty that he could now feel free to play baseball aggressively in all games.

He was then asked if he was ready to leave the trance state. However, he did not answer; then suddenly he began shaking his head and looking exceedingly thoughtful. "No," he said, "It's coming to me. That word *shame* that you used. That's it. When I was pitching down in [a Southern city], that time recently when I did so well, I hated everyone there. I kept cussing the batter, the spectators, everybody, right down to the bat-boy and then later on I was ashamed of how I had acted. That happened in two other cities too, and I guess everywhere that I've gotten mad, I've done really well." While making this statement his fingers wandered over his face and neck in a curiously nervous, picking way.

He was asked, "Do you think this shame will bother you in the future after you pitch well?" He responded, "No, I won't get mad in that way any more. I won't have to act in a way that will make me feel ashamed afterwards." He was asked, "After those successful games, how do you feel about them?" "I feel good. Glad that I won them. I just think about how well I played." "In the non-hypnotic state you are not aware of feeling ashamed after those games?" "No." When asked whether he wished to recall this conversation post-hypnotically, he stated that he did.

After emerging from the trance, the subject was enthusiastic about the way he felt. The episode involving his brother and his spontaneous arousal from the previous trance seemed to have escaped his memory, although he

was not pressed on this point. He was very much impressed with his insight into his aggression problem in baseball. He commented that he understood himself better. He left, apparently feeling very confident of himself.

According to the baseball coach who had referred this subject to the present investigator, his pitching was excellent throughout the season, which began shortly after the three hypnotic sessions. When the subject returned in the autumn, he confirmed the report that his season had been very successful. He had lost the need to work himself into a rage in order to play well, and his performance was far more consistently good. In August the usual late-season staleness had set in, and it was sometimes difficult for him to "get excited" about games, but this was attributed to psychological fatigue rather than to a conflict related to aggression.

DISCUSSION

This analysis seemed to be in accord with the frustration, aggression, guilt cycle proposed by Dollard and others (1,2). It was interesting to note how the subject avoided his aggressive feelings, substituting instead a lackadaisical, easy-going, carefree manner. However, over a period of time the aggressive feelings would build up until they burst forth, virtually uncontrollably; and although the athlete was ordinarily aware afterwards only of his satisfaction at the way he had played and of the wish that he could always be angry when he played, at hypnotic levels it became apparent that his chief post-game preoccupation was his feeling of what he termed shame for having behaved in what he considered an unbecoming way. Subsequently he would need to avoid playing aggressively for a time so as to avoid the shame or guilt reaction which would follow a successful game.

It was also of interest to note the importance that this athlete attached to his not having been punished following the episode in which he had injured his younger brother years before. In the non-hypnotic state he apparently was able to remember striking his brother but he was not able to recall what were seemingly to him the more painful features of that experience, namely those involving his being left alone and unpunished when his brother was rushed to the hospital. This common phenomenon of repression of the unpleasant made it impossible for him to deal with the problem of aggression "consciously"; and apparently the conscious and unconscious material were at odds until they were synthesized in the discussions at hypnotic levels.

In this connection it was interesting to note the confusion that existed in this man's mind as to the meaning of the word aggression. Evidently it was like an inspiration to him to realize that it is possible to aggress freely in ways that are not unsportsmanlike or antisocial and that one need not feel guilty for aggression that is not vicious, that is socially acceptable, and that is within the rules and spirit of the game. This bit of insight seemed to liberate the subject psychologically so that he could approach competition without having to deal with a conflict between aggressing and feeling guilty.

Grateful acknowledgment is made to Dr. B. W. Murphy of the Chevy Chase Medical Center, Maryland, for his consultation in this investigation. His comments upon seeing the completed report are of interest: "There were undoubtedly other determinants in this boy's difficulty with aggression. I think it could be said that the memory of the experience with his brother may well be a memory of an incident that served to crystallize his problem of aggression with his brother. It is

worthwhile keeping in mind Anna Freud's observation that commonly a whole series of experiences extending over lengthy periods of time in childhood may be condensed into a single memory. This observation grew out of Miss Freud's work with children at the Hampstead Nurseries in England, where she and her associates had the opportunity to see children over a lengthy period and had some in analysis subsequently."

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RESPONSE TO SUGGESTIONS GIVEN UNDER GENERAL ANESTHESIA

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Several papers recently have shown that patients can respond to suggestions given while they are under general anesthesia. To my knowledge, no attempt has been made to determine whether subjects will respond when the suggestions are confined to the time that the patients are in a surgical plane of anesthesia. The present experiment was designed to attempt to answer the question whether or not subjects under deep general anesthesia can hear and respond to suggestions.

METHOD

The investigation was designed in the form of a double-blind-placebo experiment. The surgeons, anesthetists, and other persons involved in the care of the patients did not know whether or not a particular patient had received suggestions. Only I knew, and I had no contact with these patients.

Patients received either suggestions or a "placebo" by means of a tape recorder, through earphones. The loudspeaker of the recorder was permanently disconnected.

Four master tapes were prepared. Three copies of each of the masters were the actual tapes played to the patients. The order in which the tapes were played was randomized, except that each group of 12 consecutive tapes contained three of each of the four types of tapes. The tapes were numbered consecutively, and the anesthetist recorded the number of the tape played on the patient's chart. The tapes were then returned to me for rewinding and assignment of a new number.

All of the tapes contained only music for the first five minutes, so that in

the event that a patient was not in a surgical plane of anesthesia when the recorder was started, the anesthetist had five minutes to deepen the anesthesia before any suggestions were given.

The first tape (P) contained 25 minutes of suggestions following the five minutes of music, then music for the next one hour. The suggestions were given in a "permissive" manner, and pointed out to the patient that the amount of comfort he had during the post-operative period depended to a great extent on him, and the more he could relax the more comfortable he would be. All of the usual things that happen post-operatively were discussed, with suggestions on how to handle each of them. Specific items discussed in detail were: the ability to empty the bladder and bowel, ambulation, injections, pain, and dressing changes. Interspersed repeatedly in all the suggestions were statements to the effect that if he would really relax and follow the suggestions *he would recover from his illness faster and be able to leave the hospital sooner*. This was strongly emphasized repeatedly.

The second tape (A) was identical with the first, except that the suggestions were given in a more authoritarian manner. It was thought that, since patients submitting to surgery were in a dependent situation, they might respond better to suggestions that were more forceful. This idea was later shown to be false.

The third tape (M) contained only music for the entire 1½ hours.

The fourth tape (B) contained five minutes of music, and thereafter was blank tape.

Upon the insistence of several members of the staff of the hospital, the

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patients signed permits for the tapes to be played. The permits stated, and the patient was told, that his surgeon was participating in an experiment to determine whether or not patients under general anesthesia could hear, and that music and voices would be played to him during surgery. Nothing was said that would indicate that the tapes were expected to influence his behavior in any way.

The earphones were placed on the patient as soon as consciousness was lost, but the recorder was not started until the operation began. If at that time the surgeon indicated that the anesthesia was not deep enough for him to proceed, the five minutes of music at the beginning of each tape allowed the anesthetist to deepen the anesthesia before any suggestions were given.

If the anesthesia was discontinued before 30 minutes after the start of the operation, that patient was excluded from the series. If the operation lasted between 30 and 90 minutes, the recorder was stopped when the anesthesia was discontinued. If the operation lasted more than 90 minutes the recorder was stopped when the tape ended. In all cases the earphones were left on the patient until the anesthesia was discontinued.

In order to reduce the number of variables, the patients of only two surgeons participated in the series. The anesthetists were told to play a tape to as many of these surgeons' patients as possible who were having elective surgery that would last for more than 30 minutes.

Using these criteria, tapes were played to 104 patients. Of these, 23 were excluded from evaluation for the following reasons:

Four patients 70 years and older, because it was felt that there was probably a significant hearing loss.

The entire group of 9 patients who had cholecystectomies, because 8 of the 9 had received no suggestions. When the initial evaluation was done, before this

skewed distribution was noted, the results were found to be significant at the .001 level.

Five patients, because the charts showed that they had received anesthesia for 30 minutes or less.

One patient because of post-operative death.

Two patients (a physician and an operating-room nurse) because they had prior knowledge of what the tapes contained.

One patient, because he suffered from a terminal malignancy and had been addicted to morphine for a considerable time prior to surgery.

One patient, because his surgery was markedly different from that done on the rest of the group. He had had skin grafting.

After excluding this group, 81 patients were submitted to final evaluation; 43 of these received suggestions, and 38 received no suggestions. The distribution by type of operation for the two groups is shown in Table 3.

EVALUATION

At first it was thought to evaluate many variables in patient response. It soon became evident that several variables, particularly vomiting, use of sedatives, number of catheterizations required, and number of enemas required, could not be evaluated because either almost all patients used them (such as H.S. sedatives), or only a small group was involved (such as patients who had indwelling catheters and/or gastric tubes.) It was finally decided to evaluate only three variables that were common to all patients in both groups: the number of doses of narcotics used in the first five post-operative days, the number of post-operative days the patient remained in the hospital, and a numerical grading of each patient's post-operative course. The numerical grading was done by the surgeon the day the patient was discharged, and was on a scale of 1 to 10, low scores indicating a poor course, and high scores indicating a benign course.

RESULTS

1. Comparison of groups A and P (patients who received suggestions) showed no difference in response. Similarly, comparison of groups M and B showed no difference in response. Therefore, groups A and P were combined and called the "suggestion" group, and groups M and B were combined and called the "no suggestion" or placebo group.

2. Analysis of the surgeons' grading of each patient's post-operative course revealed no significant difference between the two groups. Chi square is equal to .004, significant at the .95 level (not significant). See Table 4.

3. Analysis of the number of doses of narcotics used by each patient revealed no significant difference between the two groups. Chi square is equal to .664, significant at the .50 level (not significant). See Table 5.

4. Analysis of the post-operative stay of the two groups revealed a significantly shorter stay in the "suggestion" group. The mean post-operative stay in the "suggestion" group was 8.63 days, and in the "no suggestion" group was 11.05 days, a difference of 2.42 days. Chi square is equal to 5.15, significant at between the .05 and .02 levels. See Table 6.

SUMMARY

Recorded suggestions aimed at reducing the post-operative stay in the hospital were played to a series of surgical patients under general anesthesia. A control series received placebo recordings under the same circumstances.

Evaluation of responses revealed:

1. Surgeons could not differentiate between patients who had received suggestions and those who had not.

2. There was no difference in the use of narcotics between the two groups.

3. The patients who had received

suggestions were discharged an average of 2.42 days sooner than the control group.² This difference is statistically significant at below the .05 level.

ADDENDA

The 11.05 day mean post-operative stay in the "no suggestion" group might be questioned, in that it might not be typical of the stay of other patients undergoing the same kind of operations. In order to determine whether or not the "no suggestion" group represents a valid control, another control group was selected for comparison. This group was matched to the "suggestion" group in number of patients and the distribution of operations. That is, using patients of the same surgeons, beginning the day after the last tape was played, we selected the first 13 herniorrhaphies, the first 5 pelvic laparotomies, the first 8 hysterectomies, etc. See Table 7.

The mean post-operative stay for this control group was found to be 10.3 days, with a median of 10 days. This is similar to the mean of 11.05 days and the median of 9 days in the "no suggestion" group. Comparison of these two groups reveals that chi square is equal to .21, significant at the .70 level (no significant difference). See Table 8. Therefore, the post-operative stay in the "no suggestion" group is shown to be a valid control.

If the "no suggestion" and control groups (all patients in the series who did not receive suggestions) are combined, and the post-operative stay compared with the "suggestion" group, chi-square is 7.23, significant at below the .01 level. See Table 9.

This is further evidence that patients in a surgical plane of anesthesia can hear and respond to suggestions.

² Using a patient/day cost of \$35.00, reducing the postoperative stay of the 43 patients in the "suggestion" group by 2.4 days represents a saving of \$3,640.

TABLE 1
NO SUGGESTIONS

No.	Age	Sex	Operation	Eval.	Doses	Post-op. Stay
1	68	F	Expl. Lap.	4½	4	14
2	51	F	Thyroidectomy	6	4	7
3	46	F	Thyroidectomy	8	—	11
4	63	M	Gastrectomy	8	7	15
5	54	M	Hernia	7½	1	9
6	47	M	Gastrectomy	8	15	13
7	43	F	Hysterectomy	8	5	12
8	47	F	Hemorrhoid	6	4	14
9	60	F	Hysterectomy	7½	18	12
10	61	M	Hernia	7½	1	10
11	57	M	Hernia	8½	—	8
12	44	M	Hernia	8	4	9
13	54	M	Hernia	6½	6	10
14	64	M	Gastrectomy	6½	18	37
15	24	F	Pelvic Lap.	9	1	8
16	46	F	Hernia	7½	3	14
17	51	M	Vein Stripping	7½	—	7
18	25	F	Pelvic Lap.	10	4	8
19	39	F	Hysterectomy	9	3	9
20	56	F	Gastrectomy	6½	9	23
21	45	M	Hemorrhoid	7½	1	8
22	35	M	Hernia	7½	—	10
23	31	M	Hernia	6½	6	8
24	50	F	Pelvic Lap.	7	8	11
25	43	F	Thyroidectomy	7½	6	7
26	47	F	Thyroidectomy	7½	2	10
27	28	F	Pelvic Lap.	9	2	7
28	43	F	Hernia	7½	3	18
29	42	F	Vein Stripping	7½	1	3
30	44	F	Vein Stripping	6½	—	19
31	58	M	Hemorrhoid	6½	6	9
32	53	M	Hernia	7½	14	10
33	31	F	Vein Stripping	4½	19	18
34	27	F	Pelvic Lap.	10	7	6
35	35	F	Pelvic Lap.	9	5	7
36	32	F	Vein Stripping	7½	—	3
37	28	F	Pelvic Lap.	9	10	9
38	30	M	Hernia	7	4	7
Means	44.8	15M, 23F		7.50	5.29	11.05

TABLE 2
SUGGESTIONS

No.	Age	Sex	Operation	Eval.	Doses	Post-op. Stay
1	61	F	Hernia	8	10	14
2	23	M	Hernia	7½	2	7
3	48	F	Hysterectomy	7	11	9
4	46	M	Hernia	6	2	6
5	32	F	Expl. Lap.	7½	17	7
6	50	F	Hysterectomy	9	2	11
7	36	F	Hernia	7	5	9
8	39	F	Hemorrhoid	7½	3	8
9	67	F	Vein Stripping	7½	—	10
10	52	F	Gastrectomy	7	17	11
11	47	F	Hysterectomy	8	6	9
12	49	M	Hernia	7½	3	8
13	57	F	Gastrectomy	7½	9	11
14	59	M	Hernia	8½	2	8
15	50	F	Hysterectomy	7	6	10
16	27	F	Hernia	7½	—	7
17	61	M	Hernia	6½	6	7
18	35	M	Hernia	8½	1	7
19	55	F	Hemorrhoid	7½	7	8
20	50	F	Pelvic Lap.	9	9	7
21	63	M	Vein Stripping	7½	—	8
22	34	M	Hernia	6	5	9
23	26	M	Hemorrhoid	8½	6	6
24	45	F	Thyroidectomy	8½	4	7
25	40	F	Vein Stripping	6	—	7
26	44	F	Pelvic Lap.	6	15	12
27	49	F	Hernia	8	1	9
28	42	F	Hysterectomy	8	2	9
29	55	F	Pelvic Lap.	8	12	9
30	63	F	Vein Stripping	7½	3	8
31	37	F	Hysterectomy	10	15	8
32	42	F	Hemorrhoid	7½	8	8
33	38	F	Pelvic Lap.	8	8	8
34	51	F	Hemorrhoid	6½	6	7
35	65	M	Hernia	7½	1	8
36	48	F	Hemorrhoid	6½	1	10
37	44	F	Hysterectomy	7	4	10
38	60	F	Hysterectomy	4	7	14
39	69	F	Hernia	7½	2	9
40	42	F	Gastrectomy	8½	12	12
41	63	M	Thyroidectomy	5½	5	6
42	26	F	Vein Stripping	6	2	7
43	26	F	Pelvic Lap.	9	—	6
Means	46.8	11M, 32F		7.43	5.50	8.63

TABLE 7
CONTROL (NO TAPE PLAYED)

No.	Age	Sex	Operation	Post-op. Stay
1	39	F	Hysterectomy	9
2	58	M	Thyroidectomy	8
3	64	F	Hysterectomy	14
4	56	M	Gastrectomy	14
5	40	M	Gastrectomy	15
6	27	F	Pelvic Lap.	8
7	50	M	Hernia	7
8	66	F	Hernia	14
9	41	F	Hysterectomy	10
10	33	F	Hernia	10
11	39	M	Hemorrhoid	11
12	53	M	Hernia	7
13	31	F	Hemorrhoid	8
14	47	F	Vein Stripping	13
15	47	F	Hysterectomy	11
16	49	F	Hysterectomy	9
17	33	M	Gastrectomy	13
18	36	F	Pelvic Lap.	7
19	27	M	Hemorrhoid	9
20	41	F	Pelvic Lap.	19
21	63	M	Hernia	7
22	56	M	Hernia	10
23	46	F	Vein Stripping	8
24	48	M	Hernia	7
25	55	M	Hernia	7
26	33	M	Hemorrhoid	11
27	53	M	Hernia	11
28	39	F	Vein Stripping	7
29	68	F	Expl. Lap.	11
30	61	M	Hemorrhoid	14
31	61	F	Thyroidectomy	11
32	53	M	Hernia	7
33	34	F	Hysterectomy	13
34	36	F	Hysterectomy	13
35	20	M	Hernia	8
36	42	F	Hysterectomy	9
37	63	M	Hemorrhoid	11
38	31	F	Vein Stripping	7
39	53	F	Pelvic Lap.	10
40	24	F	Pelvic Lap.	8
41	29	M	Hernia	7
42	63	M	Hernia	7
43	69	F	Vein Stripping	21
Means	46.0	20M, 23F		10.3

BRIEF CLINICAL REPORTS

A TECHNIQUE TO CONTROL HALLUCINATORY OBSESSIVE IDEAS

Reinaldo D. Verson, Ph.D.¹

This technique first accepts the patient's ideas but emphasizes the actuality of inner origin, and then the patient is enabled to realize that the obsessive ideas can be controlled and eliminated at will.

CASE 1

An adult patient with an excessive fear of the dark was enabled through hypnotic regressive techniques to trace this fear to an early belief in ghosts and evil spirits, developed through the early influence of her mother's interest in occult studies. She was especially obsessed with fears of a "little old man who appeared in corners, calling to her and jumping at her, laughing." She recognized this as an irrational fear but could not control her intense emotional response.

The patient was first asked if she was aware of the nature of an hallucination and replied that "it was seeing something not real."

In a hypnotic state, with eyes closed, she was then asked to see the therapist clearly, to see him sitting there and to hear him talking, and to signify when she had done so. When she responded, it was pointed out to her that she had seen with the eyes of her imagination, *with the same eyes with which she saw the little old man.*

Then she was asked, in the hypnotic state, to see a television set and to watch her favorite program. She did so with evidence of pleasure. She was then told, "Now with these eyes of your imagination with which you have just watched this show you have not only created images at will, but they have been pleasant scenes. Now I am going to show further how you can control these scenes."

She was then asked, still with her eyes closed, to "see" the center table on which was a geographical globe. When she indicated that this had taken place, she was told that the globe was rising off the table and would hover in the air about three feet over it. Then it would drop slowly until

it rested again on the table. She watched this scene with evident enjoyment.

It was then pointed out to her that not only had she "seen" something plainly and clearly with "the eyes of her imagination," but that she had controlled the movements of the image.

With this background, she was asked if she now would be willing to "see" the little old man, knowing that she could control the image at will. She was told, "This time, instead of letting the little old man do things to you, you do things to him. Make him behave any way you wish, make him move the way you want. If you want him to jump, he will jump; if you want him to scratch his nose, he must do it; if you want him to stand on his head, he will stand on his head. You can control him like a puppet."

She consented and enjoyed herself, laughing like a child as she watched the little old man, making him jump and do tricks. "Now," she was told, "any time you wish, you can throw him away and get rid of him forever." To this she agreed and thereby lost her fears.

CASE 2

An adaptation of this technique was used with an 8-year-old boy. This child had been struck by a car about a year before and had suffered a head injury. When seen for psychotherapy, no neurological sequelae could be demonstrated. However, the boy was nervous, wakeful at night, and had nightmares.

The child was hypnotized using the "magic carpet technique" previously described. After thus obtaining the child's confidence and co-operation against a suggested pleasant background, his difficulties with sleep were discussed. He told the operator that he saw two figures every night, not well-defined, but more like shadows. One was taller than the other, and they were menacing and frightening.

Using a procedure similar to the first case, the operator made the patient willing to see the figures, this time also with the idea of making them do as he wished.

First, to simplify the problem, it was suggested that the smaller of the two be made "still and stiff," and placed in a corner. The

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boy was then asked what he would like the other to do. He suggested that the tall figure could play ball with him. Since the child then decided to be the batter, it was soon suggested that it would be convenient to use the second figure as a catcher while the tall one pitched.

It was gently pointed out to the boy that he was no longer afraid of the figures. He agreed but indicated that, since they had frightened him in the past, he wanted to get even. This idea was accepted. It was suggested that he could roll each one up

and thus make a cigarette of each of the figures. These he would then hand to his father to be smoked, and thus the figures would become vanishing smoke. He agreed with glee and proceeded to do as suggested, declaring that they were gone forever.

In this case, not only was the subject's realization of his control of the hallucination utilized, but also the authority of the child's father was invoked. Thus the child was allowed to direct and to manipulate purposively and pleasurably the father's protective strength and authority.

SUBCONSCIOUS USE OF HYPNOTIC PHENOMENA DURING LABOR

Donald Coulton, M.D.¹

The use of hypnosis in labor and delivery has evolved from directive methods primarily depending on progressive deep relaxation and hypno-anesthesia to more complex techniques. More effective use of hypnosis can be gained by broadening the patient's experience in hypnotic phenomena to include autohypnosis, distraction and substitution of automatic activity, dissociations in time and place, time distortion, and depersonalization. This approach not only allows a wider variety of application during labor but also is associated with an increasingly permissive attitude giving the patient the opportunity to select the various phenomena best suited to her needs. There are two obvious advantages to this: first, the patient's feelings of satisfaction and accomplishment are increased proportionately to her active participation; secondly, the patient, given the necessary learnings and the opportunity, is far better able than anyone else to select for herself the specific phenomena for fulfilling her own needs in achieving a satisfying experience. The physician remains the "catalyst" and not a "director" in her psychological and emotional experience of labor.

In certain patients an extension of this non-directive approach can occur. These patients although experienced in hypnosis, do not appear to the observer to be in trance nor are they consciously aware of being in a trance. They are happy, enthusiastic, or curious about their experience in labor, but they deny having entered hypnosis or of making use of hypnotic phenomena. However, trance phenomena can be directly elicited, often to the patient's surprise. Furthermore, inquiry by subconscious finger levitation indicates the presence and utilization of hypnosis.

Apparently there are various ways in which this type of subconscious use of trance can occur. Most of these patients are widely experienced in hypnotic phenomena, but not necessarily so. Most also have a relatively long history of experiencing hypnosis sometimes for other than obstetrical purposes, but this too is not necessarily so. If there is a basic similarity it seems to be the attitude of confidence and complete reliance, both in their own capabilities and in their medical attendants.

CASE 1

Mrs. C.K., age 21, delivered her first baby in 1957. She had four prenatal training sessions in hypnosis, during which she learned to experience the following: autohypnosis,

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anesthesia of the lower half of the body which could be maintained post-hypnotically, hypermnesia, visual and olfactory hallucinations, and opening of the eyes without arousal from trance. In labor hypnosis was employed successfully, being fully adequate except for the episiotomy and repair, both of which required small amounts of Trilene.

She delivered her second baby in 1958. Two prenatal training sessions were used to review her previous learnings with emphasis on retaining perineal hypnoanesthesia during episiorrhaphy. In addition she also experienced an amnesia. In her second labor she obviously employed hypnosis and was aware of doing so, being pleased with her accomplishment. No analgesics were needed, and she was comfortable throughout, including episiorrhaphy.

Her third delivery occurred in 1959. One prenatal training session was used to review through hypermnesia the "pleasant, satisfying experience" of her second delivery. In this labor she was comfortable and happy but at no time, including the performance of the episiorrhaphy, did she appear to be in trance. At the conclusion of the repair she denied having used hypnosis during this labor. On the basis of the painless repair a doubt was raised to this and a test suggestion was given that her right hand become numb. It promptly became analgesic.

Although the appearance of hand analgesia could have been the result of direct suggestion without trance or could have been carried out by first entering trance at that moment in order to carry out the suggestion, it is more likely that an unrecognized trance state was already present, which would explain the painless labor and episiorrhaphy. This patient's process of learning through a series of three deliveries is of particular interest. Her good but incomplete accomplishment the first time was improved to a completely adequate experience the second time, though in both there was an awareness of employing hypnosis in order to reach this goal. On the basis of her learned accomplishment she was apparently able to employ her capabilities subconsciously the third time. That this included en-

tering a trance state without awareness of it, is suggested by the prompt response in developing hand analgesia.

CASE 2

Mrs. L.E., a 33-year-old patient, had first learned to enter hypnosis for the treatment of primary frigidity after her second delivery. During hypnotherapy, in which insight and resolution of her problem occurred, she learned autohypnosis, levitation and catalepsy, hypnoanesthesia, hypermnesia, visual and olfactory hallucinations, and trance dreaming.

Four months after therapy she aborted a blighted ovum at 2½ months gestation with considerable hemorrhage. A curettage was urgently necessary. She requested it be done under hypnosis. She was completely successful, using relaxation, hypnoanesthesia, and pleasant revivifications to aid dissociation.

Eighteen months later she delivered at term without having had any prenatal training sessions. During her four hour labor she appeared comfortably relaxed, spending most of the time talking with the nurses about children and her happy anticipations of the expected baby. This attitude continued through delivery and episiotomy repair, the conversation being directly concerned with the progress of the birth. She denied use of trance immediately after concluding the delivery but willingly agreed to "ask her fingers" if she were then in trance. (She had had experience during hypnotherapy with finger levitation in answering questions at a subconscious level.) An expression of surprise came over her face as her finger answered "yes." She was then asked if she had used hypnosis during labor and delivery and again her finger answered "yes." Her amazement continued, but she accepted her subconscious responses as accurate.

In describing her labor she said she had had regular "pains" at home which continued until hospitalized, at which time they abruptly ceased. She was aware that "contractions" continued and that "the nurses said they were regular." She also was aware of the delivery and repair, as both were discussed at the time, but "there was no pain" because "I suppose I was too excited about the baby to notice."

This patient's experience is interesting because it demonstrates the subconscious application of hypnotic learnings originally experienced in an en-

tirely different situation. The aid of hypnosis in previously solving unrelated problems apparently prepared her subconsciously to utilize these capabilities in achieving a comfortable, emotionally satisfying delivery. Development of the patient's capabilities in a broad sense would seem to be an ideal goal of hypnotic experience, in contrast to limiting hypnotic training to a conditioning process dependent upon the operator and fitted to only a specific use or situation.

As long as hypnotic experience is sufficiently extensive to include the necessary development of specific capabilities to meet the situation, it can be utilized at a subconscious level. No doubt what is sufficiently extensive will vary greatly from one individual to another depending on their needs, previous attitudes, and abilities. That it need not be extensive nor prolonged to be subconsciously utilized, is evident in the following case, previously reported (1).

CASE 3

Mrs. M.G. was 26 years old with three children. Usual medications were used during her first two labors. Early in her third labor she discarded the Trilene mask saying, "It doesn't do any good." She asked that parenteral medication be postponed, as she "didn't like needles." Hypnosis was quickly accepted as an alternative. Progressive relaxation was used, with emphasis on the rationale that labor could be comfortable and proceed faster as the pelvic muscles relaxed; perineal hypnoanalgesia was accomplished for delivery, including episiotomy, on the rationale that the pressure of the baby's head would produce it and that she could intensify it by further local relaxation. The result was so successful that she wondered why she had not been told how to accomplish it before.

Her next delivery occurred 22 months later. Her only experience with hypnosis was during her previous labor, as described. No medication was used, and hypnosis was not mentioned during the four hour labor. At no time did she appear to be in trance or to be intentionally trying to relax. Between contractions she was physically active and talkative; during contractions she

was somewhat quieter physically but often continued the conversation. During delivery and episiorrhaphy she was eagerly excited and quite active above the waist only. There was no sign of discomfort. The perineum and legs were thoroughly relaxed.

Immediately after the repair she denied using hypnosis or intentional use of progressive relaxation, which she said she only vaguely remembered. When asked to explain the lack of pain during repair she said, "I knew what you were doing, but I just didn't pay any attention to it." Time was not taken to develop finger levitation for subconscious inquiry, as she had had no experience with this phenomenon.

This patient portrays the successful subconscious use of her capabilities after very limited hypnotic experience on only one previous occasion but which proved adequate for her needs in meeting the situation.

COMMENT

It can be theorized that these patients have learned through previous hypnotic experience how to meet labor and delivery both physically and emotionally in such a way that they have complete confidence in themselves and their professional care. Since no uncertainties or apprehensions are present in meeting the situation, they are able to employ all the necessary previous learnings at a subconscious level. This would be consistent with many other learned processes. Our first attempts require conscious attention and application; repeated attempts lead to greater efficiency and ease of performance; finally, accomplishment requires little or no conscious attention whenever performance is desired. This learning process can be applied equally well to climbing a flight of stairs or playing the piano. In other fields of hypnotic application patients also demonstrate this process of learning leading to subconscious application without conscious awareness. For example the nervous dental patient who is helped through hypnotic technics to achieve a comfortable dental experi-

ence may become such a good patient that hypnosis is no longer necessary. It would seem likely that such patients are in actuality employing their hypnotic capabilities at a subconscious level, in a similar fashion to these obstetrical patients.

SUMMARY

Three obstetrical patients are presented, whose labors and deliveries including episiorrhaphies were comfortable and satisfying. No medications

were used. Hypnosis was not employed consciously nor did these patients appear to be in a trance state, but each had had previously successful experience with hypnosis.

Some evidence is presented which suggests the possibility of a subconscious use of hypnosis in these patients. If this is true, it would be theoretically consistent with both the non-hypnotic learning process and with a similar interpretation of subconscious application of hypnotic learnings in other clinical fields.

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THE HYPNOTIC INDUCTION OF LABOR: SIX CASES

Franklyn G. Rice, M.D.¹

There are many times when an induction of labor is advisable for medical, emotional, or social reasons. The medical profession in general, and obstetricians in particular, frown on a chemical induction of labor, because uterine control is not easily managed once a stimulating chemical has been injected into the body. Rupture of the membranes is a final procedure and, once performed, leaves little choice as to the manner of delivery.

In searching for a way to induce labor that can be better controlled and at the same time leave the attending physician with a condition in which he can alter his choice of the method of delivery, one might consider the use of hypnosis. It seems highly improbable that the unconscious should have such a profound influence on an organ that is so highly specialized, so susceptible to hormonal influence, and so uncontrollable by physical means.

However, one can accept the control of the nausea and vomiting of pregnancy by the use of hypnosis because the thought of some things, including pregnancy, does make many of us "sick to our stomachs." We accept the emotional or unconscious control of the cardiovascular system as evidenced by blushing or pallor. We understand the loss of sphincter control in fright. Yet we question the unconscious control of the gravid uterus.

Now, in the light of the extremely thought provoking article by Erickson (1), one begins to question whether functional uterine bleeding is not "emotional uterine bleeding" or "uterine bleeding of convenience." If the vomiting of pregnancy can be stopped by using hypnosis, and, if the menstrual flow can be controlled by the unconscious, it should be possible to initiate contractions of a gravid uterus at term by the unconscious.

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The following cases are presented in evidence of the possibility of inducing labor by the use of hypnosis.

CASE 1

This 32-year-old housewife was first seen on March 19, 1959. Her last normal menstrual period began on January 2, 1959. The estimated date of confinement was October 12, 1959.

Her only previous pregnancy occurred 4 years ago. Her prenatal course was uneventful. Labor began spontaneously and lasted 10 hours. Spinal anesthesia was used for delivery.

Throughout the prenatal care of her present pregnancy, she attended the classes which were conducted for hypnotic training. During the last month of pregnancy her abdomen increased in size to such an extent that she was having respiratory difficulty. This increase in size was not pathological, so at her insistence I agreed to try to induce labor, using hypnotic suggestion.

Accordingly, the patient was placed in a hypnotic state and told to recall her previous labor and to signal the operator when this had been accomplished. She indicated this recollection by verbal response. The patient was then given the suggestion that she re-experience the pain of labor and again give a signal. When she had indicated that she had re-experienced the pain, she was told to have a contraction that would last 10 sec. It was noted that she voluntarily contracted the abdominal muscles and maintained this contraction for the suggested period of time. After a 5 min. interval, she was told again to repeat the contraction. Again the tightening of the abdomen was voluntary. After 2 or 3 voluntary contractions of the abdomen, involuntary uterine contractions began. The suggestion then was given that these uterine contractions of 10 sec. duration would recur at 1 min. intervals, though it would seem to her that they were recurring every 5 min. She was allowed to remain in the hypnotic state for 30 to 40 min., during which time she continued to have the contractions which had been suggested. After she was awakened from the trance, her pains continued, and she was able to time them. A short time later she stated that her pains were 5 min. apart and were lasting about 1 min. On palpating the abdomen, uterine contractions could be felt. She remained in the office for about an hour, so that she could be observed and the adequacy of the contractions be evaluated. At the end of

this time, her contractions were believed to be of sufficient regularity and intensity that she could be admitted to the hospital.

The routine admission preparation was ordered—obstetrical shave and soapsuds enema. She was given a liquid diet, then allowed to sit on the sun porch with her husband. At 8 p.m. she was examined rectally. The cervix was 80% effaced and dilatation was 3 to 4 cm. Her contractions continued at 5 min. intervals and were lasting 20 to 30 sec. Labor progressed normally, as the intervals between contractions decreased and the duration and intensity of the contractions increased. At 2 a.m. she delivered a living male infant, who cried spontaneously. No episiotomy was necessary, and no chemo-anesthesia or analgesia was required. When she was ready to return to her room, she asked for her housecoat and slippers, put them on, was helped off the delivery table, walked to the bassinette, picked up her baby, and walked back to her room. Twelve hours had elapsed between the time she was hypnotized in the office and the time she was delivered.

CASE 2

This was the fourth pregnancy for this 27-year-old woman. Her first 2 pregnancies and deliveries were uneventful. Her 3rd labor, in November of 1958, was induced because of a crippling pain in her left leg. Her expected date of confinement for her present pregnancy was estimated to be December 1960. Since October 1960 she had complained of pain over the course of the right sciatic nerve and in the right hip. Hypnotic suggestion had given her relief for short periods of time, but, as time went on, the pain became more severe, so that by December 1 she was spending most of the day in bed. While she was in class for hypnotic training on December 10 she requested induction of labor because of the severity of the pain.

Therefore, she was given the same labor-inducing suggestions as were given to Case 1. When she had indicated that recall and revivification had been accomplished, she was told to have a contraction. This patient did not voluntarily contract her abdominal muscles, but she did have a feeble uterine contraction. Then she was told to have a stronger contraction. No time element was offered as the suggestion was repeated again and again, each time urging that the contractions become stronger. When the strength of the contractions had increased to such a degree that they could be considered as "mild," time-interval and

duration were proposed with time distortion. She was awakened and 30 to 45 min. later was sent home with instructions to go to the hospital when her pains were 5 to 7 min. apart. She was admitted to the hospital at 11 p. m., at which time examination revealed 5 to 7 cm. dilatation, complete effacement, and the presenting part at a 1 plus station. At 3:45 a. m., she delivered a living male. No anesthesia or analgesia was used. She watched the delivery of her baby by means of a mirror. Her labor was 8 hrs. long. She, too, walked from the delivery room to her room. This patient laughed with each contraction, because, she said, "it seems so funny to have labor contractions as hard as these are and not have any pain."

CASE 3

This 21-year-old woman had carried two previous pregnancies to term. She was expected to deliver her third child in mid-January. During 5 months of hypnotic training, this patient had shown a great deal of enthusiasm for hypnosis and seemed very confident in her ability to enter a trance. She could accomplish arm catalepsy very quickly. When a new patient entered the class, she was delighted to demonstrate her trance ability. During a class near her expected date of confinement, she asked to be induced to "show the others what could be done with hypnosis."

Therefore, the same procedure was followed with this patient, as was followed with Cases 1 and 2. In a hypnotic state, she was asked to recall and then re-experience her previous labor. When the suggestion was given to "have a contraction," a voluntary contraction of the abdomen was observed. Then she was told to let her uterus contract, not her abdominal muscles. Within a very few minutes a uterine contraction occurred. Periodicity and regularity of the contractions with time distortion was suggested. After she was awakened, she was sent home, where she continued to have pains every 5 min. At 11 p. m., she entered the hospital. Examination revealed complete effacement and 4 cm. dilatation. She delivered 4 hrs. later.

Comment: There was no medical indication for induction of labor in this case.

CASE 4

This 39-year-old mother had delivered three full-term pregnancies. Because she had gained considerable weight with her previous pregnancies, she requested hypnosis for weight control as well as for delivery. Her first visit was in June, 1959, at

which time she began attending the classes for hypnotic training. In addition to the usual suggestions concerning labor and delivery, she was directed to "overeat enough to gain one pound every two weeks." In spite of all hypnotic suggestions and dietary instructions, the patient gained considerable weight. Because of this excessive weight gain and the increased size of her abdomen, the possibility of an abnormal pregnancy was considered. X-ray pictures were taken, and a twin pregnancy was reported. In the 8th month of pregnancy, she began to have an elevated blood pressure, albuminuria, and a grade I pitting edema. An induction of labor, using hypnosis, was thought advisable because of the impending toxemia of pregnancy. Two unsuccessful attempts, using hypnosis, were made to start labor. Uterine contractions could be initiated but could not be made to continue. One week after the second failure, she entered the hospital in active labor. She delivered normally, and a mid-line episiotomy was done for the delivery of the second twin. Delivery, episiotomy, and repair were accomplished without anesthesia.

Comment: Of the 6 cases being reported, this is the only induction failure. The patient was well trained, as was evidenced by a rapid labor and the fact that she did not require chemo-anesthesia or analgesia. A satisfactory explanation for the failure cannot be given. The uterine musculature may have been stretched so thin that contraction and retraction could not take place until after the amniotic sac had ruptured and the size of the uterus had decreased.

CASE 5

This patient was 25 years old and had been delivered of two other babies. Her previous delivery in 1958 had been successfully accomplished, using hypnosis. Induction of labor for her third pregnancy was achieved in the same manner as the preceding cases.

CASE 6

This young lady, 26 years old, had delivered three previous pregnancies, and this was to be her second delivery using hypnosis. Labor was initiated successfully as described in the other cases.

DISCUSSION

One of the phenomena of hypnosis is recall and revivification. Women who have never delivered before or who have never been in labor cannot be expected to recall or to experience the

sensation of contractions or the physical discomfort of labor and delivery. Therefore, when a hypnotic induction is attempted, it must be done in a multiparous woman, and the usual criteria for all medical inductions must be present, i.e. she must be at or near term and the cervix must be "ripe." In a light to moderate trance, the parturient woman is asked to recall her previous labor. When this recollection has been accomplished, she signals the hypnotist. She is requested then to re-experience her labor pains, and she again signals the operator when she is having these contractions. She is now given the suggestion that these contractions or pains will recur at regular intervals, last for a stated period of time and intensify in character. At this point, if the subject has been well trained, time distortion can be accomplished and contractions can recur at 5, 7, or 10 min. intervals and last 10,

20, or 30 sec., as the hypnotist may desire. The frequency, intensity, and length of these contractions must be commensurate with the usual intervals that have been experienced in previous labors. The patient is aware of the fact that the contractions at the onset of labor are 15 to 20 min. apart and last only 10 to 15 sec. However, with the use of time distortion, the intervals between contractions can be decreased and the length of the contractions increased.

During the past two years, this reporter has used hypnosis to induce labor in six multiparous women, ranging from gravida II to gravida V. Of these six cases, induction under hypnosis was unsuccessful in one, a multiple pregnancy. Usually the patient returned to her home after being induced in the office and, from 1 to 4 hrs. later, reported to the hospital in active labor. All six were delivered under hypnosis with no other analgesia or anesthesia.

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AGE-REGRESSION IN THE TREATMENT OF TWO INSTANCES OF DENTAL PHOBIA¹

Jacob Stolzenberg, D.D.S.²

However experienced in hypnosis the dentist may be, hypnotic procedures are not necessarily requisite for all patients. There is an obligation, particularly with young patients, to introduce them to operative procedures at

a conscious level by a simple matter-of-fact approach. This often serves to develop a lasting rapport and obviates the need for formal hypnosis as often as it promotes hypnosis when needed. Neither is it requisite to employ regression or dissociation techniques routinely, since simple relaxation techniques are usually adequate to meet the majority of dental needs. Fear and anxiety in the dental situation

¹ Presented before the American Society of Clinical Hypnosis, Miami Beach, August 1960.

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need not necessarily arise from actual recent or past clinical experiences but may even result from mere misunderstandings and misinterpretations or reactions to the experience of others. In such cases, regression may be found useful as a therapeutic procedure and is properly utilized in direct relationship to the dental problem involved. The following two case reports are illustrative examples.

CASE 1

An 18-year-old girl, planning to be married, sought dental care because of the badly neglected and carious state of her teeth. Her explanation of this condition was that she always fainted at the sight of a *dentist in a white coat* and therefore she had previously avoided dental care.

She was reluctant to enter the consultation room. To calm her, she was given a placebo and told that her dental problem would be discussed. During the discussion, the dentist remarked that she appeared to be drowsy, that she could close her eyes if she wanted to relax, and suggestions were given progressively to induce a trance. Post-hypnotic suggestions were then given that upon awakening she would proceed into the operatory and accept dental services, that she would enjoy this experience, that in the future upon a given signal she would develop an even deeper state of hypnosis. She was pleasantly surprised by her experience and anticipatory of her next appointment.

At her next visit, she claimed she had not really been hypnotized. She felt that in real hypnosis one used an electric gadget. An electric metronome was then obligingly used, even though she responded spontaneously to the pre-arranged signal.

Because of her statement during the first interview, "I always faint when I see a dentist in a white coat," and since she presumably had never had a traumatic dental experience, she was regressed to the age of five. It was learned that at that age she had been taken to her family physician to have a felon on her finger lanced. To accomplish this, the physician had summoned

his brother, a dentist in a white coat, to aid in holding her still.

Upon awakening, this recovered memory was discussed, and after several more visits, she was regarded as sufficiently conditioned for the recommended hypnodontia, which she underwent satisfactorily.

CASE 2

This 18-year-old girl sought a statement of satisfactory dental health to meet her college entrance requirements. She was shy, fearful, ill at ease, and unhappy. Her teeth were obviously in poor condition, but she would not permit even a routine examination of her mouth with mirror and explorer.

She hesitated when hypnosis was suggested and proved refractory at first, but after several attempts she developed a good state of hypnosis. She was then regressed to determine the nature or origin of her dental phobia. It was discovered that as a child she had been sitting at the dinner table when her older sister returned home crying hysterically from a visit to the dentist. The sister had bitterly related how the dentist, while performing operative procedures, had lacerated her mouth with the drill. During the trance state the patient was told to recall this memory when she was awake, and that it would then be discussed. In the discussion the explanation was given that her sister had had only a temporary hurt, that she still went to the dentist periodically for dental services and was, as a matter of fact, one of the author's orthodontic patients. The patient accepted the explanation and had her operative dentistry completed without any further incident.

SUMMARY

Two cases of dental phobia are presented in which, through age-regression, it was found that the patients had actually not been subjected to previous traumatic dental experience but had developed the fear through association and hearsay. Reassurance at an adult level proved acceptable and therapeutic.

A NOTE ON INCREASED ABILITY TO DO CALCULUS POST-HYPNOTICALLY

Hallack McCord, Ph.D.,¹ and Charles I. Sherrill, III

Although one might reasonably speculate that hypnosis could provide a vehicle for inducing dramatic improvement in intellectual efficiency, very little research has been reported in this area. (For a bibliography of studies in related areas see Uhr (1).) This is surprising in light of the amount of informal interest displayed relative to the supposed vast untapped potentials of the human intellect.

Hence, as a possible means of gaining further insight into the above topic, the following brief investigation was undertaken:

Method: A university instructor and mathematician, known to be highly intelligent, was placed in a deep hypnotic trance. This was accomplished in five minutes by suggestion of relaxation. He was then given suggestions that when awakened in a few moments he would be provided with some problems in calculus to do and that he would be able to do them with high accuracy and faster than he had ever done such work before in his life. In other words, the subject was strongly urged to make more efficient use of the knowledge he already possessed.

The subject was then aroused from the trance, provided with the calculus problems, and asked to do as many of them as possible in 20 minutes.

Results and conclusions.

1. The subject completed in 20 minutes a task that normally would have

taken him two hours without loss of accuracy. In short, he increased his speed by sixfold. This gain is particularly striking in light of the fact the subject was an efficient mathematician to begin with and was accustomed to doing calculus problems with good speed.

2. The gain in the subject's speed was accomplished by his skipping steps in the mathematical process, performing in his head some of the calculations he would normally have written out, by writing down some of his calculations extremely rapidly, etc.

3. The subject had spontaneous amnesia for some of his mathematical calculations, and, upon reading over his work at the end of the 20-minute test interval, appeared amazed at what he had accomplished. Apparently, relatively speaking, the subject's unconscious was participating in the project to a degree generally outside the ken of the so-called "conscious."

4. The subject reported he enjoyed doing the calculus, a task he ordinarily would have considered necessary preparatory drudgery for a university mathematics lecture.

5. Further research pointed toward determining possible ways hypnosis might be used to upgrade human intellectual functioning seems definitely in order in light of the results of the above brief investigation. This recommendation seems particularly pertinent in these times, when good use of human learning may be vital to the survival of mankind.

¹ University of Colorado, Denver Extension Center, 1100 14th St., Denver 2.

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BOOK REVIEWS

A. Romero. *L'Ipnosi in Psicoterapia*. [Hypnosis in Psychotherapy.] Turin: Minerva Medica, 1960. x + 145 pp. L. 2000.

By Francis J. Lodato, Ph.D.

The rebirth of interest in hypnosis throughout the world can best be seen in the vast number of articles, books, and reviews which deal with this topic. This present work from Italy helps to demonstrate the international attention which hypnosis is being given.

One of the outstanding features of this text is the very interesting and most complete bibliography which Dr. Romero has compiled. All who are concerned with what is being done with hypnosis at the present time throughout the world will find this section invaluable. The author presents twenty pages of bibliography, which include references in English, Italian, French, and German. Perhaps the translation of this entire bibliography into English might serve the important function of making the material in it more readily useful to American practitioners of hypnosis.

As to the book itself, Dr. Romero writes clearly and interestingly. This reviewer does not feel that what he has written is dynamically different from the writings of others. However, his approach to such topics as hypnosis and transference and countertransference make for informative reading. Dr. Romero also presents an interesting approach to the question of the compatibility between the methods of psychoanalysis and the method of hypnosis. The author believes the place of hypnosis is as that of an adjunct, in cases where it is indicated, to other methods. By way of illumination he also offers to his readers a brief history of hypnosis and considers circumstances when he feels the use of hypnosis is indicated, while at the same time he offers a sober approach to the limits he feels should be observed.

This work should be of interest to those who would like a brief and at times provocative restatement of the many classical attitudes which surround the use of hypnosis.

T. C. Kahn and M. B. Giffen. *Psychological Techniques in Diagnosis and Evaluation*. New York: Pergamon Press, 1960. Pp. xi + 151. Bibliography. \$6.50.

By André M. Weitzenhoffer, Ph.D.

Recently there has been a growing interest and concern among medical hypnotists with regard to the problem of detecting patients who present potential psychological hazards. This small book is therefore timely, as it constitutes an excellent introduction to the type of psychological testing which will be of interest to physicians whose concern goes beyond the purely somatic problems of their patients. The work, which was specially written for medical and other professional men with a minimum of psychological training, is in the author's words "intended to give those who have dealings with clinical psychologists an understanding of what a psychologist is, how he functions, and how he arrives at his conclusions." In view of the contents of the book, this perhaps leads to a somewhat narrow definition of the psychologist, but it at least serves to emphasize his role as a psychometrician and diagnostician. As implied in the above quotation, this work will not teach the reader how to do his own testing and will probably not make it any easier for him to make his own psychodiagnoses. It will, however, show him why he should not attempt to do this, how and by whom it should be done, and it will certainly allow him better to understand and use a psychodiagnosis when he encounters one. If the current trend in medicine continues, it seems inevitable to this reviewer that physicians will have to place increasing reliance upon the kinds of services psychologists can make available to them. No physician should have to administer psychological tests, but he ought to be prepared to make use of the findings of such tests. The present work will do much toward this preparation.

E. Kretschmer. *Hysteria, Reflex, and Instinct*. New York: Philosophical Library. Translated by Vlasta and Wade Baskin from *Hysterie, Reflex, und Instinkt* (Georg Thieme Verlag, Stuttgart). v + 154 pp. \$4.75.

By Maura Hession, M.D.

This is a newly revised and augmented edition of Kretschmer's earlier work. It elaborates upon (1) the Freudian and Krae-

pelinian theories that hysterical symptoms are autogenetically determined patterns of reaction, (2) the Bonhoeffer and Cimbali theory postulating a conscious volitional background permitting identification with simulation, and (3) Kretschmer's own theory, based on Charcot's experiments relating to the effects of suggestion and hypnosis, which he sums up as, "Hysterical means psychogenic patterns of reaction, in which a tendency to dissimulate finds expression through an instinctive, reflexive, or other built-in survival mechanism." Part one of the book discusses the relationship of hysteria to instinctive and impulsive behavior.

Part two is devoted to elaboration of the special way in which psychic tendencies employ primitive inherent mechanisms. Most of the cases cited are those observed at the battle-front during World War I and those patients kept under observation for years afterwards.

Altogether this is a very readable book and should be of particular interest to the student of psychology and to interested lay people, but since symptomatology is poorly presented and management and treatment are barely touched upon, this reviewer doubts its value for the medical man in general and for the psychiatrist in particular.

ABSTRACTS OF CURRENT LITERATURE

Edited by André M. Weitzenhoffer, Ph.D.

142. Morey Hossri, C. Inducción de la hipnosis a través de "toques." [Hypnotic induction by means of "touches."] *Rev. Lat.-Amer. Hipn. clín.*, 1961, 2 (1), 39-41.

Discussion is given of the induction of hypnosis through the emotional impact of direct skin contact.

143. Mosconi, G., and Sfarcich, B. Preparación del parto con hipnosis. [Preparation for childbirth with hypnosis.] *Rev. Lat.-Amer. Hipn. clín.*, 1961, 2 (1), 29-34.

The author believes that hypnotic analgesia in childbirth may be physiological in nature. He reports on 100 obstetrical cases, 58 of whom were primiparae, on whom he secured 79% excellent results.

144. Stokvis, B. La hipnosis como un metodo y principio de investigación acerca de los fundamentos psicossomáticos. [Hypnosis as a method and principle of investigation in regard to psychosomatic fundamentals.] *Rev. Lat.-Amer. Hipn. clín.*, 1961, 2 (1), 22-28.

Discussion is given of the significance of hypnosis in general, followed by discussion of experimental medical uses in the physio-psychological, the psycho-diagnostic, and the experimental-psychological clinical examinations. He concludes that hypnosis is an important means toward the objectification of psychosomatic factors and processes.

145. Curi, E. Desdoblamiento de la personalidad. [Personality dissociation.] *Acta hipnol. Lat.-Amer.*, 1 (3), 63-70.

The unsuspected presence of a dual personality in an 18-year-old girl and the use of hypnosis to effect a therapeutic reorganization is reported.

146. Brihuega, M. E. Etica en la práctica y enseñanza de la hipnodontia. [Ethics in the practice and teaching of hypnodontia.] *Acta hipnol. Lat.-Amer.*, 1 (3), 21-31.

A discussion is offered of the ethics involved in the practice and teaching of hypnosis in dentistry, based on existential philosophy.

147. De Moraes Passos, A. C., and Barra, E. O método de Rorschach em um caso de regressao (hipnótica) de idade. [The Rorschach method in a case of hypnotic age regression.] *Acta hipnol. Lat.-Amer.*, 1 (3), 11-20.

Report is given of the administration of the Rorschach test to a college student in the ordinary waking state and when regressed hypnotically to the age of 7. Findings disclosed only slight differences in test results.

148. Lerner, M. Consideraciones sobre hipnosis humana e hipnosis animal. Aspectos comparativos. [Considerations on human and animal hypnosis.] *Acta hipnol. Lat.-Amer.*, 1 (3), 55-62.

A brief historical comment is given, followed by a discussion of the essential differences between hypnosis in man and "hypnosis" or the akinesic state occurring in animals.

149. Power, E. La hipnosis como medio auxiliar de diagnóstico en medicina interna, ginecología y obstetricia. [Hypnosis as a diagnostic auxiliary medium in internal medicine, gynecology, and obstetrics.] *Acta hipnol. Lat. Amer.*, 1 (3), 43-54.

The use of hypnosis as a diagnostic aid in discovering obscure psychogenic factors is reported in three instances: (1) genital pruritus, frigidity, and obesity, (2) psychogenic amenorrhea, and (3) repeated abortions.

150. Solovey, G., and Milechnin, A. Algunos aspectos de la hipnosis en terapéutica actual. [Some aspects of hypnosis in present-day therapy.] *Rev. Lat.-Amer. Hipn. clín.*, Part I: 1 (3), 5-11; Part II: 1 (4), 6-13; Part III: 2 (1), 6-13.

The factor essential for successful hypnotherapeutic results derives not from doctrines established by various schools of thought. It arises from the interpersonal relationships established and the consequent intensification of emotional states which leads to physiological changes and alterations of neuro-vegetative functioning. Suggestibility may decrease with deepening of the trance and hypnoanalysis is primarily dependent upon a light trance. 85-item bibliography.

151. Gonzáles Urroz, E. Revisión de 60 casos clínicos tratados con hipnosis como recurso terapéutico [Review of 60 cases treated under hypnotherapy.] *Acta Hipnol. Lat.-Amer.*, 1 (3), 33-45.

A review is given of the hypnotherapeutic results, excellent 19%, good 58%, medium 13%, and failure 9%, on 60 patients representing 12 categories of illness.

152. Portnoy, M. E. Un caso de asma y eczema tratado con hipnosis. [A case of asthma and eczema treated by hypnosis.] *Acta hipnol. Lat.-Amer.*, 1 (3), 71-76.

Report is given of the procedure in the hypnotherapy of asthma and eczema of 5 years duration in a 9-year-old child.

153. Verson, R. D. Una técnica rápida para el tratamiento de la enuresis. [A rapid technique for the treatment of enuresis.] *Rev. Lat.-Amer. Hipn. clín.*, 1961, 2 (1), 18-21.

Reviews recent work on the treatment of enuresis by hypnosis and describes a technique which is a combination of the procedures used in different cases. The point is stressed that the direct and rapid suppression of the symptoms tends to eliminate the complicating psychological factors and that exercises to develop progressive control of the bladder contribute to increase of the capacity of the bladder and to better control. (P.S.)

154. Muftic, M. K. Fenómeno vesicatorio por hipnosis. [Vesicular phenomenon produced by hypnosis.] *Rev. Lat.-Amer. Hipn. clín.*, 1961, 2 (1), 29-34.

Peripheral nerve action can cause tissue change, possibly by altering tissue fluid exchanges. Psychogenic stimuli can, by leading to peripheral nerve activity, lead similarly to tissue changes. Report is given of a controlled hypnotic experiment in which irritant and inert substances produced comparable degrees of change in the skin.

155. Morban Laucer, F. A. Hábitos de succión en el niño y sus orígenes en los traumas psicológicos. [Sucking habits in the child and their origins in psychological traumas.] *Anales Españoles de Odontoestomatología* (Madrid), 1961, 20 (1), 42-51.

A review of the theories on the psychological bases of the thumbsucking habit is given, as well as a listing of the possible damages resulting to the developing of oral structures. The author states that he does not hold with any of the authorities urging non-interference with the habit at early ages, maintaining that the earlier the attempt to break the habit the less the danger and the easier the therapy. He also asserts that it is impossible to predict where there will be deformations of the maxillofacial structures resulting from the habit. In his suggested treatment, which is based on the psychological interview, the use of hypnosis is advised once the child's confidence has been gained, three years being given as the optimum age for therapy. Considerable space is given to the method of Alberto Lerro Barreto, according to whom four or five days of carefully administered suggestion during sleep will rid the child of the habit. The disadvantages of the mechanical corrective appliances are listed. (H. David Prensky.)

156. Castillo, César R. Hypnosis as an end and as a means in dentistry and medicine. *Hipnología* (Buenos Aires), 1960, 2 (4), 2-4.

The author divides hypnotic procedures into two major groupings: (1) application of hypnosis to prevent, suppress or mitigate pain as in childbirth or dental extraction; (2) preparations or aids in more extensive or deeper psychotherapies. Two cases are cited, one dealing with severe headaches, the other with a trigeminal neuralgia. The common feature claimed is the conversion of a painful emotional situation into an unconsciously preferred physical pain, and the success with hypnotherapy consisted in persuading the patients to confront this relationship and to give up the need for the physical symptom. A dental case showing a similar picture is given and a plea made to dentists to use hypnosis as a part of necessary minor psychotherapy within the borders of their field. (H. David Prensky.)

157. Paris, Raúl J., Mosgidis, Oscar H., and Durante, José E. Removal of gunshot under hypnotic anesthesia. *Hipnología* (Buenos Aires), 1960, 2 (4), 5-7.

The authors report a successful operation on a 69-year-old woman who had been suffering for 22 years with intermittent intense headaches and vertigo, consisting of the removal under hypnotic anesthesia of lead shot from the region of the upper canine and premolars and requiring extensive surgical exploration. The authors report a surprising post-operative picture with absence of pain, bleeding and a speedy, perfectly healing wound. (H. David Prensky.)

158. Pita de Caceres, Nydia Hebe. The practice of hypnodontia. *Hipnología* (Buenos Aires), 1960, 2 (4), 8-10.

There is a large group of physicians and dentists who take courses in hypnosis, agree that it is a wonderful addition to the armamentarium, and then never use it. For those who say they cannot change their methods of work, it is suggested that they make their minds more flexible and try to stop being victimized by habit. For those who say hypnosis is too time-consuming, the author suggests the routine use of posthypnotic suggestion to secure in a matter of seconds the anesthesia or other hypnotic phenomena originally gained after a lengthy hypnotic session. She advises setting aside one morning or afternoon a week for the long, preliminary first-induction sessions. (H. David Prensky.)

159. Yoguel, Aron. Personal statement of an experience under hypnosis. *Hipnología* (Buenos Aires), 1960, 2 (4), 11-12.

A dental patient writes his own account of a successful extraction under hypnotic anesthesia, where the dentist had proposed to him a collaboration between them based upon the idea that the body should be nothing but an instrument of the mind. (H. David Prensky.)

160. Casavalle, Alberto. Factors that interfere with hypnosis: ratiocination. *Hipnología* (Buenos Aires), 1960, 2 (4), 13-18.

The assertion is made that ratiocination is perhaps the most important factor working against successful application of hypnosis and that its elimination in a large number of cases is not easy. Seven cases are reported, showing how it served as an obstacle with patients representing three different general classifications and what measures were used to cope with it in each case. The three classifications established are: patients completely unfamiliar with hypnosis; those who come with the deliberate purpose of having hypnosis or who, when it is suggested, show that they have some knowledge of it; and those who have already experienced it. (H. David Prensky.)

161. Ravicovich, Abraham J. What to expect from hypnosis. *Hipnología* (Buenos Aires), 1960, 2 (4), 19.

An editorial type article advising the thoughtful practitioner to add hypnosis to his armamentarium of valuable aids but not to expect impossible or magic results from it, with two contrasting examples given to clarify this point. (H. David Prensky.)

162. Tom, K. S. Hypnosis in obstetrics and gynecology. *Obstet. Gynec.*, 1960, 16, 222-226.

The author reports on the results of the use of hypnoanesthesia and hypnoanalgesia in 73 patients over a four and a half year period in a Honolulu hospital and concludes that "hypnosis does have a limited use in labor and delivery." (Leo Wollman.)

163. Korotkin, I. I., and Suslova, M. M. Comparative study of the effects of suggestion in the alert state and under hypnosis. *Zh. Vyssh. Nerv. Deyat.*, 1960, 2, 173-179. (From Abstracts of Soviet Medicine, Vol. 5, Feb. 1961.)

Twenty-seven subjects were included in this study. It was found that suggestions made to the alert subject proved less effective than those given to the subject in hypnosis. The degree of success in following suggestions, moreover, is enhanced if the same suggestion is repeated to the same subject after hypnosis is induced. The effect of suggestion is usually increased by repetition. Rarely is it found to be weakened. When a suggestion made in the alert state is ineffective, then its repetition in the hypnotized subject becomes less effective. (Leo Wollman.)

164. Mody, N. V. Report on twenty cases delivered under hypnotism. *J. Obstet. Gynec. India*, 1960, 10, 348-353.

The author reports on his personal experience with hypnoanesthesia in 20 obstetrical deliveries selected from 31 patients who had volunteered for this. Seven of the 20 vaginal deliveries under hypnotism were in primigravid patients, 13 were multigravid. Hypnosis was induced by verbal suggestion. The patients were then psychologically prepared for delivery, and post-hypnotic suggestions for the relief of pain at the time of delivery and for auto-hypnosis training were given. The average number of sessions was seven, for the primigravid and multigravid patients alike. The usual depth of trance state was medium. The average percentage of success in the subjective and objective assessment of pain relief was 75% (100% in primigravid, 61.5% in multigravid). There appeared to be no relationship between the extent of relief of pain and the number of sittings or the depth of hypnosis in either group. The probable causes of failure in the unsuccessful group were listed as "disturbed condition of mind, excessive fever, loss of confidence, prolongation of labor, operative interference and post-maturity." Uses of hypnosis, other than for relief of pain in delivery, were for post-partum suturing of episiotomies, treatment of urinary retention and failure of lactation, and removal of perineal sutures. The author lists the following advantages in using hypnosis: shortens labor, permits the patient to enjoy the psychological experience of childbirth, reduces bleeding, lessens fatigue, better cooperation and control of the patient, no after-effects, and absolute safety for the mother and child. The only disadvantages noted were uncertainty of action and the aversions of some patients to hypnotism. (Leo Wollman.)

165. Mahrer, F. J. Hypnosis and the surgical patient. *Amer. J. Proctol.*, 1960, 11, 459-465.

The writer asserts that hypnosis may well be an essential tool for the general practitioner, the proctologist, and the surgeon. Knowledge and understanding of the mechanics of human behavior are basic ingredients in the successful use of hypnosis. The author briefly discusses some of the relevant mechanics and presents his conception of the varying stages of hypnosis. The procedure in a hypothetical case of a patient with carcinoma of the colon is detailed with specific emphasis on the importance of post-hypnotic suggestion acceptance. A case history is presented illustrating the diagnostic value of a hypnotic trance in eliciting repressed fears. Misinterpreting the somatic effects of these fears might have led to an unnecessary laparotomy. Still another value of the hypnotic trance state is illustrated in selectively identifying anatomical structures in the reconstruction operation in a man whose amputation scar involved a painfully imbedded digital nerve. The danger in the use of auto-hypnosis to overcome pain is its masking an underlying serious complication. Removal of psychosomatic complaints by hypnosis should be left to the psychiatrist or analyst. Failures in hypnosis may be present in the patient who

cannot concentrate adequately or who is fearful of what might happen. A final word of warning: "No medical man should attempt to use hypnosis if he himself is disturbed, angry, or antagonistic to the patient." (Leo Wollman.)

166. Conn, J. H. The use of hypnosis and suggestion in general practice. *Va. med. Mthl.*, 1960, **87**, 541-546.

The ideal patient for hypnosis is intelligent and able to concentrate on what is being said. He believes that whatever the doctor says will happen, can and does happen. The doctor must be convinced of his ability to succeed and learn to overcome feelings of self-consciousness. Each individual who is a candidate for hypnosis must be evaluated in regard to his motivation, his secondary gains, and his ability to live comfortably without his neurotic "crutches." The psychodynamics involved in the hypnotic relationship can briefly be summarized as a need to dominate or be dominated, which may include a fear of losing control of one's will, a desire to be overpowered or a need for dependency. Neurotic patients are afraid to get well too quickly. They cannot surrender their emotional supports or defenses without feeling overwhelmed and anxious. The curative power of suggestion lies in the fact that the patient is ready (set), able (mature enough), and willing (unconsciously wishes) to get well and to remain well (self-sufficient and realistic). Only then can he endow the therapist of his choice (the transference-object) with the power to cure him. Hypnosis can be used for relaxation, to relieve pain, to facilitate the recall of traumatic events and to alleviate anxiety. (Leo Wollman.)

167. Damseaux, S. Hypnosis in dentistry. *Rev. Belge Stomat.*, Oct.-Dec. 1959, **56**, 283-290.

Hypnosis in dentistry is of growing importance, will become an integral part of dental education, and enables a more effective meeting of the numerous, vitally significant psychosomatic problems encountered in all phases of dentistry, from phobic reactions to detrimental dental habits. It is a modality that can and should be learned by every conscientious student, and it effects better interpersonal understandings and co-operation in achieving the goal of good dentistry. (M.H.E.)

168. Sinclair-Gieben, A. H. C. Treatment of status asthmaticus by hypnosis. *Brit. med. J.*, Dec. 3, 1960, 1651-1652.

A case report is given of severe status asthmaticus in a 60-year-old man who failed to respond to chemotherapy as he had previously and who was apparently dying. His condition responded promptly to simple direct hypnosis. Theoretical implications are discussed. (M.H.E.)

169. Haley, J. Control in brief psychotherapy. *Arch. gen. Psychiat.*, 1961, **4**, 139-153.

A description of brief psychotherapy is offered in this paper, using as illustrations some of the techniques of Milton H. Erickson. The methods of producing rapid change in psychiatric symptoms are presented within a framework of an interpersonal theory of symptoms. Symptomatic behavior can be described as an attempt by a patient to gain control of whatever sort of relationship he has with another person. The patient both circumscribes other people's behavior with his symptoms and indicates that he is not responsible for doing so. The brief psychotherapist induces change by encouraging the patient to behave in a symptomatic way under certain conditions. Such an approach is similar to the hypnotist's accepting and encouraging resistance from a subject. The patient cannot gain control of the therapeutic relationship by symptomatic behavior when he is directed by the therapist to behave in that way, and so he is in a "therapeutic bind." If the patient continues with his symptoms, he is doing so at the therapist's direction and so conceding that the therapist is in control of the relationship; if he does not continue with his symptomatic behavior, he is making the same concession, because he is co-operating in the larger goal of the therapist, which is to relieve him of his symptoms. Whatever the patient does in this situation, his behavior will undergo a change, and therefore his perceptual, somatic, and emotional sensations will also change. (Author's abstract.)

170. Biddle, W. Earl. Investigation of the Oedipus phantasy by hypnosis. *Amer. J. Psychiat.*, 1957, 114, 175.

To investigate Freudian concepts of infantile and childish thinking and emotions, 100 patients in partial remission from psychoses were hypnotically regressed to approximately 3 years of age and questioned for their phantasies. In relation to the postulated Oedipus complex they either made themselves small or enlarged the parental bodies and entered the parental body in toto through skin, eyes, ears, or any of the body orifices. No erotic desires were expressed, and there seemed to be no sexual connotations. Death and annihilation wishes were found directed against the parents in connection with feelings of neglect or frustration. (M.H.E.)

171. Borlone, María, Dittborn, Julio M., and Palestini, Mario. Correlaciones electroencefalográficas dentro de una definición operacional de hipnosis sonambúlica. Comunicación preliminar. *Acta hipnol. Lat.-Amer.*, 1960, 1 (2), 9-19.

Continuous EEG recordings were secured from six hypnotic Ss, comparable in age and readily responsive to hypnosis. In five the trance was marked by a theta rhythm; in one, by a delta wave. Expectation of speaking in the trance state added an alpha rhythm during instruction and reply. A K-complex was noted in two experiments. There was a general tendency to return to an altered theta rhythm after trance speech. (Author's abstract.)

172. Roig García, Santiago. Método hipnorreflexogeno. *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 45-56.

A technique for the conditioning of body behavior by hypnosis for obstetrical purposes is described, case histories are cited, and the conclusion is reached that a body-dissociation type of anesthesia is achieved. (I. Gubel.)

173. Krugh, Kenneth R. Una positiva hipno-anestesia 'vigil.' *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 23-30.

This paper outlines very simple "waking" hypnotic techniques, employed with both pediatric and dental patients, but not intended to replace deep trance induction where such is indicated. (I. Gubel.)

174. Somma Pena, Pedro J. Hipnoterapia post-operatoria. *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 14-15.

A case in a 63-year-old patient is cited of the use of hypnotherapy to correct a month-old post-operative complication of persistent vomiting, insomnia, and toxic confusion. Suggestions limited to rest and nourishment resulted in a trance and subsequent rapid recovery. (I. Gubel.)

175. Borland, L. R., and Epstein, S. Psychological evaluation of hypnosis in dentistry. *J. Amer. dent. Assn.*, 1961, 62, 54-65.

In support of the author's conviction that hypnosis has been rejected by the majority of dentists and that its use gratifies personality needs of the user, a questionnaire investigation (Gough's Life History Interview Schedule) was conducted on 17 dentists who did not use hypnosis (did not know hypnosis?) and 17 dentists especially selected for the nature of their use of hypnosis. Each interview was tape recorded, and these recordings were employed separately by three assistants to make personality ratings in terms of selected descriptive statements taken from a 100-item list. These evaluative judgments were then summarized, processed by a computer, and by "cluster analysis." The reported results showed 4 personality groups evenly divided between the users and the non-users of hypnosis. The fifth group, considered as "normal" by the authors, showed no dentists using hypnosis, but results were reported on only 13 of the original 17 dentists using hypnosis, although, of the original 17 dentists not using hypnosis, results were reported on a total of 22, and on a grand total of 35, instead of the original 34. Backed by these results, the authors re-affirm their convictions. (M.H.E.)

176. Achaval, Alfredo. Aspectos médico-legales de la hipnosis. *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 31-40.

The author reviews the medical-legal approach to hypnosis as a modality, but not a specialty, in medicine and one to be used within the field of one's professional competence. He believes that it has significant value in reducing symptoms, in analgesia, and in various types of illness. Hypnosis belongs in the therapeutic armamentarium of every physician. (I. Gubel.)

177. Eitelberg, Raúl. Hipnose e astronáutica. *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 16-22.

The problems of astronautical medicine are reviewed. Emphasis is placed upon the importance of psychological as well as technical and biological problems. Hypnotic techniques in conditioning and the use of post-hypnotic suggestions and autohypnosis are recommended. (I. Gubel.)

178. Gonçalves Gonzaga, Jefferson. Beneficios de la hipnoterapia en los trastornos de conducta juveniles. *Rev. Lat.-Amer. Hipn. clín.*, 1960, 1 (4), 57-60.

Report is given with case histories of the successful use of hypnosis for the re-education of juvenile delinquents seeking help. (I. Gubel.)

179. Farina, Oscar. Hipnosis en pedagogía. *Acta hipnol. Lat.-Amer.*, 1960, 1 (2), 42-48.

Improvement of ability to study was attempted by the use of hypnosis on 22 pre-college students. The findings showed that improvement resulted in all but one case, that the results were not necessarily dependent upon the depth of the trance achieved, and that the improvements radiated spontaneously to other areas. (Author's abstract.)

180. De la Parra, Rafael. Tratamiento del asma bronquial en estado hipnótica. *Acta hipnol. Lat.-Amer.*, 1960, 1 (2), 60-71.

Hypnosis is found to be of significant value in the treatment of acute and chronic asthma, small children and elderly patients making the least response. Consideration should be given concomitantly to both psychological and medical aspects. (Author's abstract.)

181. Werbel, E. W. Experiences with frequent use of hypnosis in a general surgical practice. *West. J. Surg. Obstet. Gynec.*, 1960 (May-June), 68, 190-191.

The author compares, on a subjective and objective basis, 11 hemorrhoidectomies with a similar number of hemorrhoidectomies performed without the use of posthypnotic suggestion aimed at relieving post-operative pain. The absence of minimal amount of pain from the first bowel movement post-operatively in all the cases using posthypnotic suggestion was reported. He also reports on the value of medical hypnosis for rapid weight loss before operation, for postprandial anesthesia, and for simple repairs of lacerations in children. (Leo Wollman.)

182. Mellor, N. H. Hypnosis in juvenile delinquency. *GP*, 1960 (Dec.), 22, 83-87.

The imperative need in the prevention and treatment of juvenile delinquency is for a short, fast acting, accurate and effective diagnostic and treatment method. Dynamic psychotherapy with the aid of hypnosis by the general physician meets this requirement and is recommended. A pilot study of 14 patients using this treatment method produced 13 good results with an average total treatment time of six hours per patient. The patients, two girls and twelve boys, ranged in age from 13 to 17 years. The method used to uncover traumatic or emotional causative factors responsible for tension, and the resulting delinquency symptoms, was that of an ideomotor, hypnoanalytic uncovering technique developed by Erickson, using the Chevreul pendulum for ideomotor answers. The patient develops his own insight and relieves his own tension by this method. The probable reason for success is the creation of an intense transference interrelationship between the juvenile and the physician. (Leo Wollman.)

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Typescripts, double-spaced throughout, should be submitted to the Editor, 32 West Cypress St., Phoenix, Arizona, and should conform to the style of the Journal. Carbon copies are not acceptable. Some important features of the style are covered in the following instructions.

1. References should be listed at the end of articles, and items in the list should be referred to in the text by means of numbers in parentheses. The forms of citation for a book and an article are:

Weitzenhoffer, A. M. *General techniques of hypnotism*. New York: Grune & Stratton, 1957.

Davis, L. W., and Husband, R. W. A study of hypnotic susceptibility in relation to personality traits. *J. abn. soc. Psychol.*, 1931, 26, 175-182.

The first and last pages of articles should be indicated. The number of a periodical should be indicated only if the pagination is not continuous through the volume (e.g., *Brit. J. med. Hypnot.*, 1952, 3, No. 4, 5-9.)

2. The use of footnotes should be minimized.

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Abstracts should be non-critical.